

STOCKTON FISH KILLS ASSOCIATED WITH URBAN STORM RUNOFF: THE ROLE OF LOW DISSOLVED OXYGEN

**PREPARED FOR THE REGIONAL WATER QUALITY
CONTROL BOARD**

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FORWARD

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INTRODUCTION

Background

In the fall of 1994, while collecting water samples for toxicity testing, UC Davis Aquatic Toxicology Laboratory (UCD ATL) and Central Valley Regional Water Quality Control Board (CVRWQCB) staff observed a fish kill in the Calaveras River in Stockton following the first rain event of the season. The water samples that were collected from the Calaveras River as well as other urban creeks and sloughs that day (Figure 1) exhibited dissolved oxygen concentrations as low as 0.5 mg/L in the laboratory (the sample collected from 5-mile Slough)(Reyes *et al.*, 1995). In addition, CVRWQCB staff observed fish at the surface of 5-mile Slough gulping air. UCD ATL and CVRWQCB staff hypothesized that the observed fish kill was due to low dissolved oxygen concentrations.

The water samples collected following the first rain event of 1994 were tested with US EPA's three species bioassays (US EPA, 1994). *Ceriodaphnia* mortality and algal growth impairment were observed in several of the samples. Toxicity identification evaluations (TIE) (US EPA, 1989a, 1989b, and 1991) were conducted. The toxicity was found to be caused by the presence of insecticides and herbicides in the water samples. However, no fathead minnow mortality was observed in the laboratory (Reyes *et al.*, 1995).

Additional fish kills were observed in Stockton by a resident living along Smith Canal in 1994 and by CVRWQCB staff in 1994 and 1995. Fish kills were also reported by DeltaKeeper (a citizens' monitoring group) in 1995, 1996, and 1997 (Bill Jennings, pers. comm.). In one of the events in 1994, threadfin shad were observed floating at the surface of Smith Canal and 5-Mile Slough. They were quickly detected by gulls and eaten (Val Connor, pers. comm.). This behavior of floating at the surface can be due to the loss of equilibrium associated with inadequate oxygen levels. The awareness of the fish kills and the field and laboratory observations of the UCD ATL and CVRWQCB staff in 1994 prompted an investigative study in the fall of 1995. This study was designed to determine if low dissolved oxygen concentrations were responsible for the fish kills observed in Stockton's urban creeks and sloughs. This study included a field and a laboratory component. The field component was conducted in Stockton's Smith Canal. It consisted of *in situ* bioassays employing the fathead minnow and simultaneous multi-parameter water quality measurements. In addition, since threadfin shad have been observed in many of the fish kills reported in Stockton, dissolved oxygen tolerance experiments employing the threadfin shad were conducted in the laboratory. This report summarizes the results of the 1995 study.

Threadfin Shad Background

The threadfin shad, *Dorosoma petenense*, is a member of the Clupeidae (herring) family (Wang, 1986). Threadfin shad were introduced into several reservoirs in northern California and the Sacramento-San Joaquin River system in 1954 (Kimsey and Fisk, 1964). They spawn throughout the late spring and summer. Female fish deposit their

eggs on submerged vegetation in shallow water (Taber, 1969). Newly hatched larvae are planktonic and are found near the surface of the water column during the day and at mid-depth at night (Taber, 1969). Juvenile threadfin shad swim in schools and typically reach maturity in their second year (Johnson, 1971). Threadfin shad are an important food source for striped bass, largemouth bass (found in and around the Sacramento-San Joaquin Delta), and other centrarchids (Kimsey and Fisk, 1964).

MATERIALS AND METHODS

Fathead Minnow In Situ Bioassays

In situ bioassays employing the fathead minnow were conducted in Smith Canal approximately one-quarter mile west of Pershing Ave. Two-week-old fathead minnows were obtained from Aquatox, Inc., Hot Springs, AK. The minnows were acclimated in the laboratory at 17 °C for at least 24 hours prior to transport to Smith Canal. The bioassay consisted of four replicate chambers each containing five minnows. Minnows were placed in cylindrical chambers made of clear PVC pipe and 1.5 mm nylon mesh (to allow water flow). The chambers were 13 cm long with a diameter of 5 cm. They were clipped to the inside of a square PVC frame that was connected to two air-filled 1-liter plastic soda bottles. The soda bottles kept the apparatus afloat in the water column.

Minnows were transported to Smith Canal in coolers containing continuously aerated laboratory control water. The square PVC frame was tied to an anchor and pulled approximately two feet from the bottom of the canal. Control chambers were placed in laboratory control water in a 5-gallon sealed carboy which was lowered into the water column as well.

Minnows were exposed from 15 to 18 December 1997. Minnows were observed on 18 December at which time mortality was recorded. Water quality parameters in Smith Canal were measured for the duration of the exposure using a Hydrolab™, discussed below.

Multi-parameter Water Quality Measurements

Water quality parameters were measured in Smith Canal using a Surveyor 3 Multi-parameter Water Quality Logging System (Hydrolab™). The Hydrolab™ measured water temperature (°C), pH, specific conductivity (µS/cm), salinity (ppt), and dissolved oxygen (mg/L). The battery was charged (the fully charged battery lasts approximately three days) at the UC Davis laboratory and then the Hydrolab™ was transported to Smith Canal. The probe was placed in Smith Canal approximately one foot below the surface of the water at low tide. The Hydrolab™ was set to measure the water quality parameters at intervals of either 15 or 30 minutes for between 14 and 82 hours.

The Hydrolab™ was then transported back to the laboratory and the data was downloaded to a Microsoft Excel spreadsheet file.

Threadfin Shad

Fish Collection, Transport, and Maintenance

The fish were collected from Denverton Slough in Suisun Marsh using a 30-ft beach seine with one-quarter inch mesh. They were transported to the UC Davis laboratory in fiberglass tanks with aerated water at ambient (collection) temperature. Salt was added to the water to minimize stress on the fish.

Once the shad arrived at the laboratory, they were held for two weeks in aerated flow-through fiberglass tanks with air-equilibrated well water. Fish were fed *Artemia* sp. nauplii. Fish were subjected to simulated natural photoperiod.

Dissolved Oxygen Tolerance

Fish were held in a temperature-controlled water bath at 19.5 °C in individual Plexiglass™ test vessels of a flow-through design (Cech *et al.*, 1979). Test vessel volume was 4.0 L and the mean test water flow rate was 344 ml/min. A 30-cm polyethylene tube (1.67-mm internal diameter) was inserted into each of the test vessels for water sampling. Fish were subjected to decreasing levels of dissolved oxygen by passing in-flowing water through a polyvinyl chloride stripping column (Cech *et al.*, 1979) in which a counterflow of nitrogen gas (regulated through a gas flowmeter) altered dissolved oxygen content. Dissolved oxygen partial pressure (PO₂) in the inflow column was decreased at approximately 1 torr/min (1 torr = 133.3 Pa; 14 torr = PO₂ ≈ 1 mg O₂/L) from approximately 150 torr PO₂ (approximating air saturation levels) until the endpoint (when the fish lost equilibrium – “belly up”) was reached. The PO₂ was monitored every ten minutes using a Cameron Instrument Co., model 100 dissolved oxygen meter. Immediately after a fish’s endpoint was recorded, test water inflow to that vessel was stopped, and an aerated water inflow was begun. Control fish were subjected to the same protocol but without changes in dissolved oxygen (Young and Cech, 1996).

Following the experiment fish were anesthetized with MS-222 and weighed.

RESULTS

Fathead Minnow In Situ Experiments

No minnow mortality was observed in either the experimental or the control chambers in Smith Canal. Dissolved oxygen concentrations ranged from 1.75 to 9.3 mg/L and temperature ranged from 10.2 to 18.0 °C in Smith Canal during the in situ experiment (Appendix A, Table 7 and Figure 7).

Multi-parameter Water Quality Measurements

Appendix A, Figures 1 to 7 and Tables 1 to 7, summarizes the data collected using the Hydrolab™. Readings were taken for six different 3-day periods between 6 October and 19 December 1995. The lowest dissolved oxygen reading during the exposure period was 1.75 mg/L at 15.8°C.

Appendix A, Figures 1-3 refer to three different sets of measurements taken during the month of October. The field temperatures measured during these time periods ranged from 17.5-21.4°C, which is similar to the temperature (19.5°C) at which the laboratory experiment with threadfin shad was conducted. These measurements represent a dry period, or background dissolved oxygen concentrations, since there were no rain events in Stockton during the month of October. Dissolved oxygen readings ranged from 6.39-10.52 mg/L during this period.

Appendix A, Figure 4 refers to a set of measurements taken during the month of November. This was also a dry period, with no rain events for the month. Temperatures measured during this time period ranged from 12.0-14.7°C. Dissolved oxygen readings ranged from 7.07-12.26 mg/L.

Appendix A, Figures 5-7 refer to three sets of measurements taken during the month of December. The temperature ranged from 10.2-14.0°C over the three data sets. The first set of measurements were taken 3-6 December during a dry period (Figure 5). Dissolved oxygen readings ranged from 5.79-9.69 mg/L. Figure 6 shows the dissolved oxygen readings for 10-13 December, which coincides with a large rain event (1.53 inches of rain fell on 11 December, 0.80 inches fell on 12 December, and 0.33 inches fell on 13 December). Dissolved oxygen readings ranged from 3.22-8.19 mg/L. Notice that the dissolved oxygen concentrations peak during the storm and then begin to taper off. Figure 7 shows the dissolved oxygen readings for 15-18 December. The first day of this data set corresponds to a rain event (0.33 inches of rain fell on 15 December), while it was dry for the remaining days. The dissolved oxygen readings ranged from 1.75-9.3 mg/L, with the peak occurring during the rain event and then dropping below the minimum one-day national water quality criteria of 3 mg/L (USEPA, 1986).

Threadfin Shad Dissolved Oxygen Tolerance Experiment

Three separate experiments were conducted. Only fish able to survive acclimation in the test vessels were utilized in the experiments. It should be noted that threadfin shad are difficult to transport and keep alive in a laboratory. In the first experiment, only two fish survived acclimation. One fish was exposed to the decreasing oxygen regime and the

other was used as a laboratory method control. In the second experiment, five fish survived acclimation. Three fish were exposed to the decreasing oxygen regime and two were used as laboratory method controls. In the third experiment, three fish survived acclimation. Two were exposed to the decreasing oxygen regime and one was used as a laboratory method control.

As dissolved oxygen concentrations were decreased, the fish activity increased. The shad began to dart back and forth and swim up against the side of the chambers. The fish began to gasp more frequently. Once the endpoint was reached the shad turned "belly up", gasping. Recovery took less than three minutes once oxygen levels were increased. One fish died.

Control fish swum gently back and forth for the duration of the experiment. No control fish died or lost equilibrium.

Mean dissolved oxygen minimum values, the oxygen concentration at which the shad lost equilibrium, ranged from 3.29 to 4.71 mg/L (Appendix A, Figure 8). The endpoint did not seem to be affected by the weight of the fish, which ranged from 1.22-1.67g.

DISCUSSION

Fish kills have been reported in Stockton urban creeks and sloughs since 1966 (Haley, 1967). Dissolved oxygen data obtained in the laboratory in 1994 suggested that low dissolved oxygen concentrations may have been the cause of the observed fish mortality. In addition, this drop in dissolved oxygen concentrations seemed to have been associated with a rainfall event. Data obtained by DeltaKeeper (a non-profit environmental organization) in five Stockton area sloughs/creeks (Appendix A, Figure 9) during the first flush rainfall event in 1996 showed dissolved oxygen concentrations decreasing to as low as 0.34 mg/L approximately 72 hours after the peak rain (Appendix A, Figure 10) (DeltaKeeper, unpublished data).

During the fathead minnow *in situ* bioassay, the Hydrolab™ readings exhibited dissolved oxygen concentrations as low as 1.75 mg/L, which is well below both the one-day minimum ambient water quality criteria for dissolved oxygen of 3.0 mg/L for both salmonid and non-salmonid adults (USEPA, 1986) and the Basin Plan limit of 5.0 mg/L. However, no significant fathead minnow mortality was observed. In contrast, the threadfin shad lost equilibrium in the laboratory at a dissolved oxygen concentration between 3.2 and 4.7 mg/L, which is a higher dissolved oxygen concentration than that observed in the field at several sites in Stockton. Clearly, the minnow is not as sensitive to low dissolved oxygen concentrations as the shad. The fathead minnow has been reported to be more tolerant of low dissolved oxygen concentrations than other fish species (Castleberry and Cech, 1992). USEPA has reported that although non-salmonids are generally less sensitive to low dissolved oxygen concentrations than salmonids, the exceptions to this may include the Clupeidae family (which include the shad and the smelts but not the fathead minnow) (USEPA, 1986).

When dissolved oxygen concentrations in a waterway fall below the level at which indigenous species lose equilibrium these species become easy prey for avian predators and do not have the opportunity to recover as the dissolved oxygen levels return to normal over time. If this phenomenon occurs frequently after rain events there is the potential for substantial negative effects on indigenous species of fish.

Another concern is that an acute or chronic decrease in dissolved oxygen may cause a lethal effect when other toxicants are present at sublethal concentrations (USEPA, 1986). Lloyd (1961) reported an increase in toxicity to rainbow trout of several toxicants with a decrease in dissolved oxygen. This effect is especially important in the case of urban runoff in which toxicants such as surfactants, pesticides, and metals are commonly found.

The City of Stockton has proposed a study to determine the cause of the decreased dissolved oxygen concentrations associated with rainfall events.

If these efforts are inconclusive, subsequent research should focus on *in situ* studies on multiple sites with indigenous species, such as the threadfin shad, accompanied by Hydrolab™ readings and analysis (biological and/or chemical) as funding permits. If possible, long-term studies should be conducted in order to characterize any seasonal patterns that may occur. At the least, any study focusing on precipitation-related urban runoff as a possible cause for depressed dissolved oxygen levels should characterize the dissolved oxygen levels in the waterway of concern for an extended time both before and after rain events.

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Figure 1. Sampling Sites In Stockton

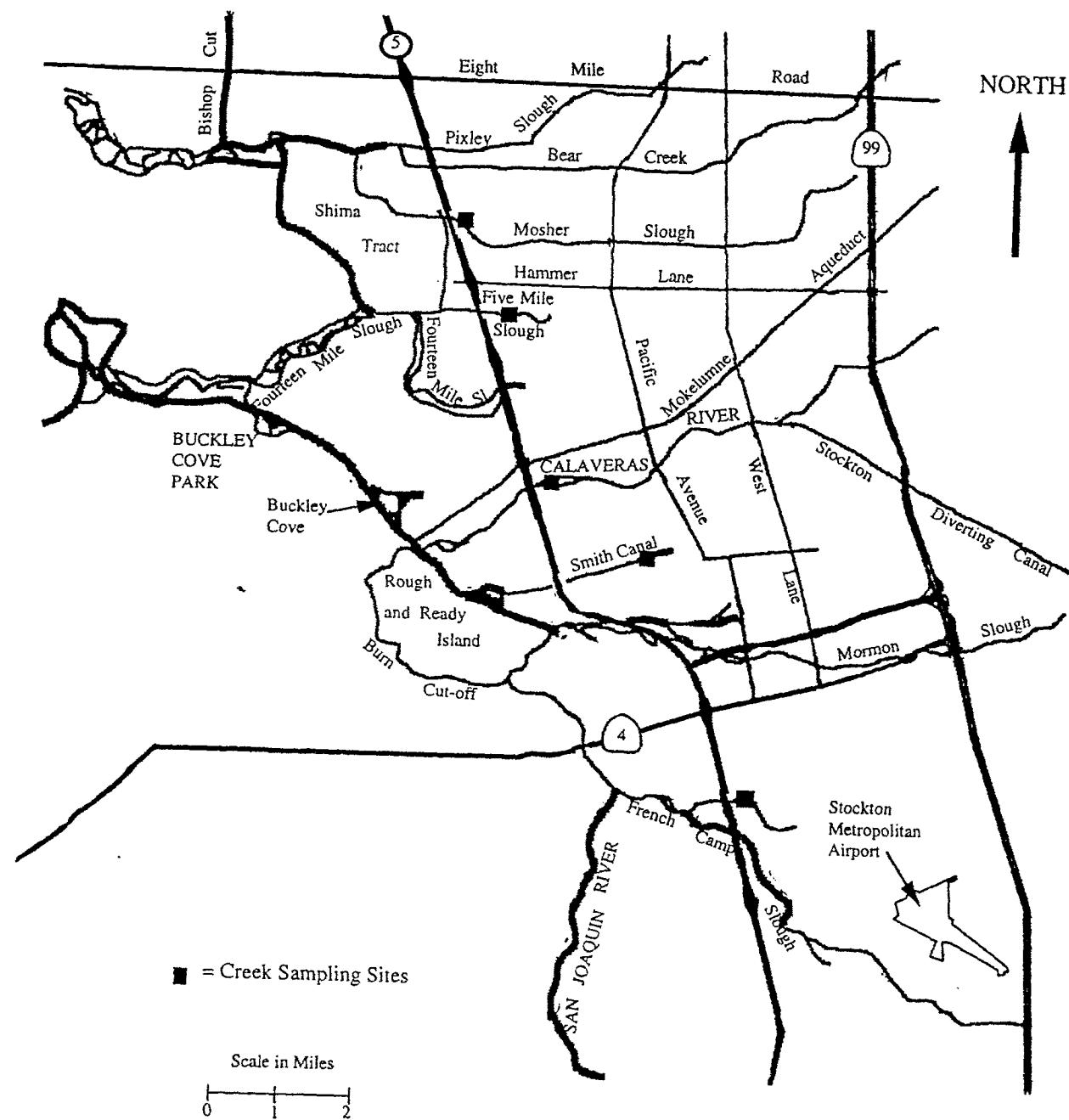


Figure 2. Each point represents the mean critical dissolved oxygen minima (mg/L) per experiment of threadfin shad acclimated at 19.5 °C in relation to mean weight. Sample sizes range from 1 to 3.

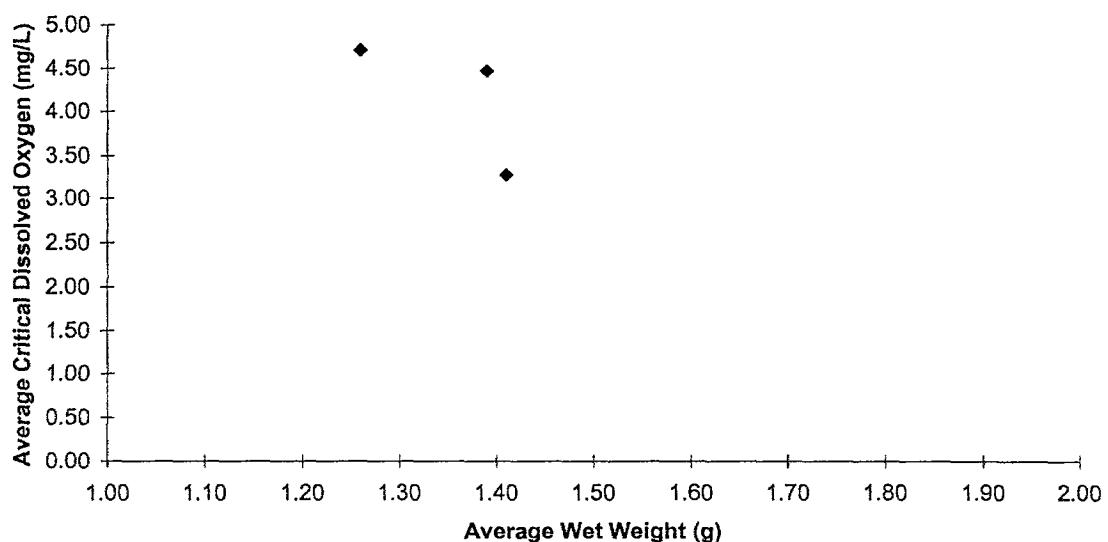
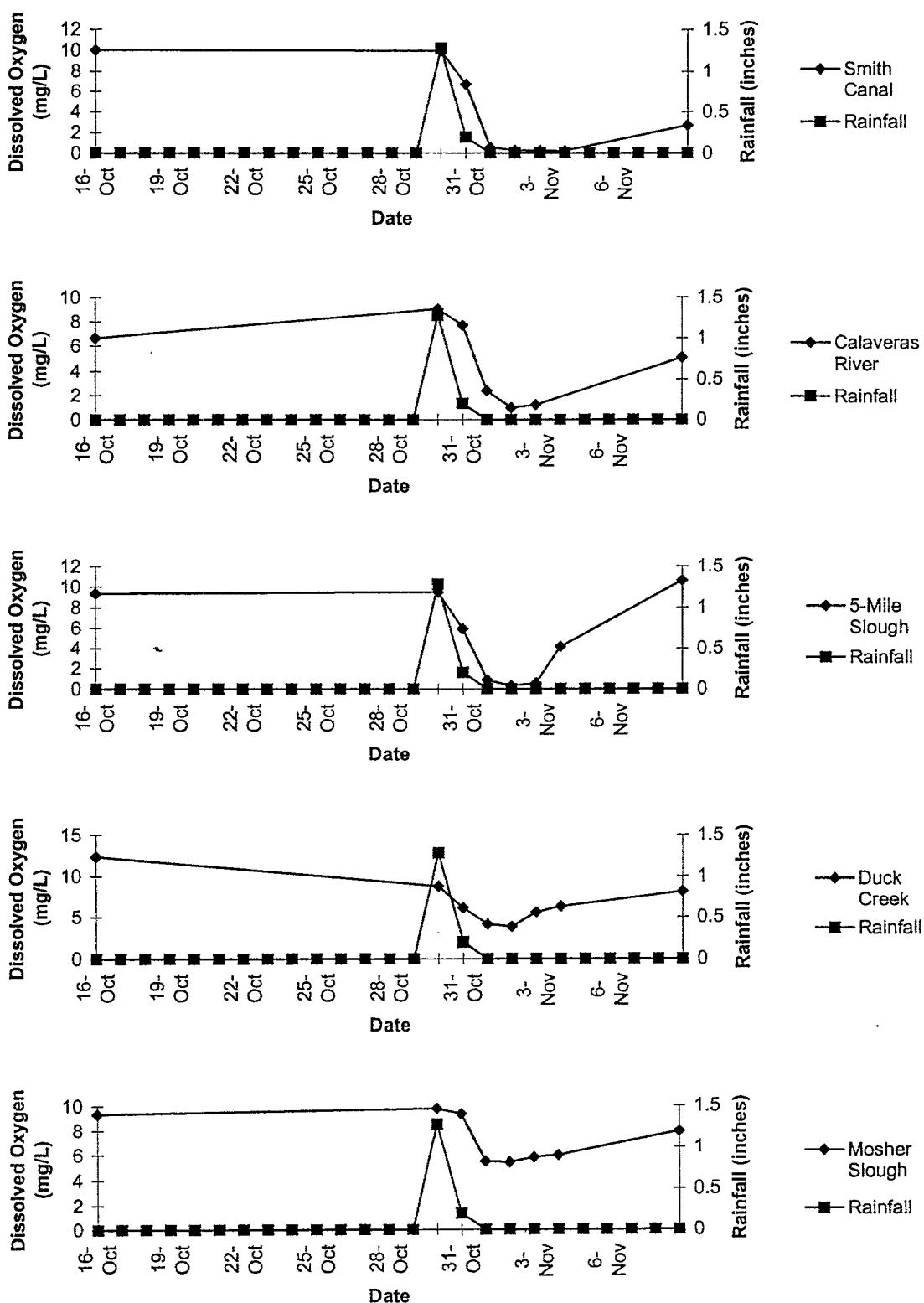


Figure 3. Dissolved oxygen and rainfall measurements in Stockton urban creeks and sloughs from 15 October to 8 November 1995.



APPENDIX A

MULTI-PARAMETER WATER QUALITY MEASUREMENTS

Figure 1. Dissolved oxygen measurements in Smith Canal from 6 to 9 October 1995.

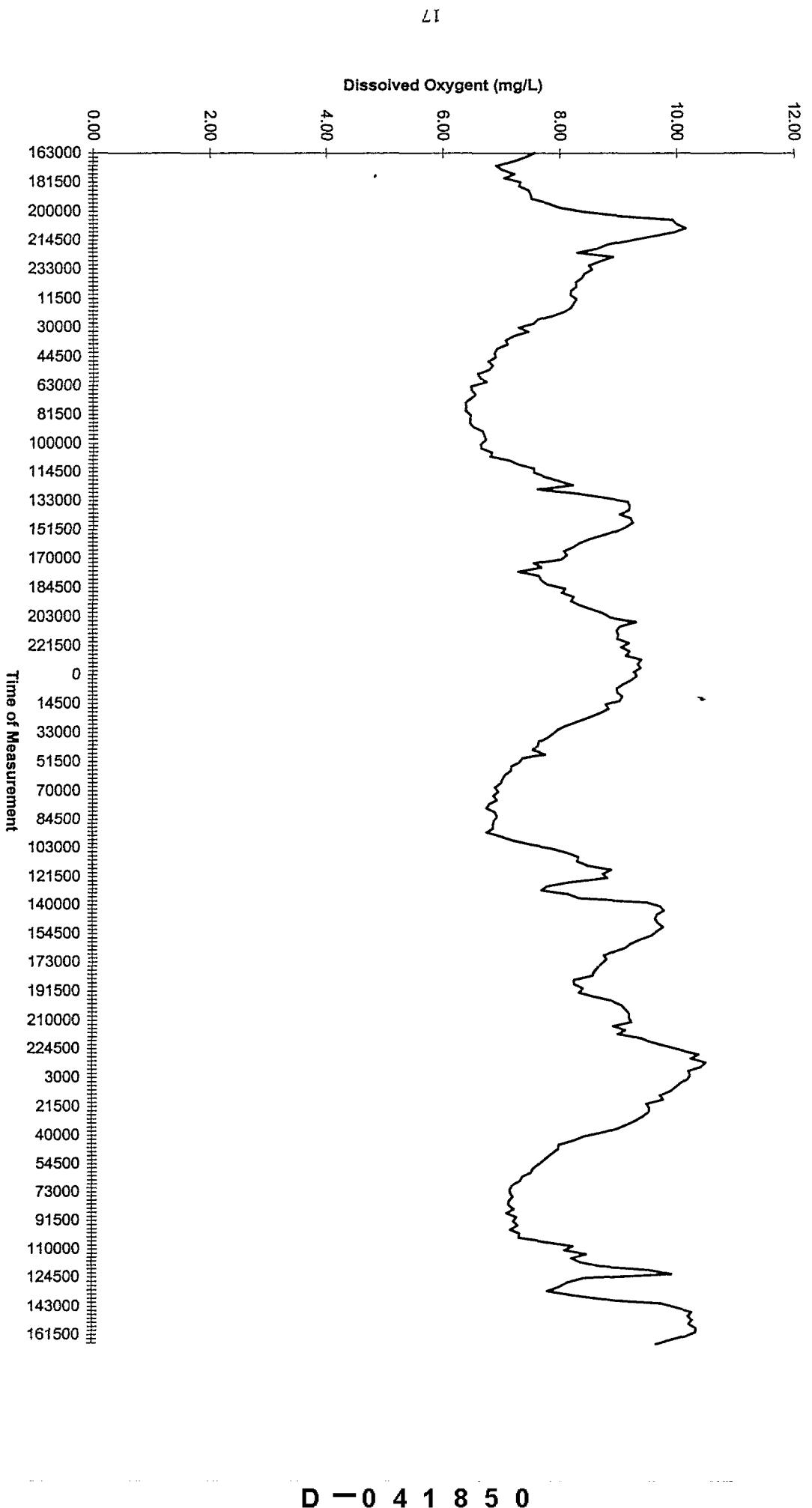


Table 1. Summary of water quality parameters measured in Smith Canal from 6 to 9 October 1995.

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 100695 | 163000 | 21.00 | 7.55 | 416 | 0.2 | 84.9 | 7.56 |
| 100695 | 164500 | 20.94 | 7.53 | 409 | 0.2 | 83.1 | 7.40 |
| 100695 | 170000 | 20.92 | 7.47 | 409 | 0.2 | 80.8 | 7.20 |
| 100695 | 171500 | 20.89 | 7.42 | 409 | 0.2 | 77.5 | 6.92 |
| 100695 | 173000 | 20.94 | 7.43 | 413 | 0.2 | 78.8 | 7.02 |
| 100695 | 174500 | 20.90 | 7.44 | 403 | 0.2 | 81.1 | 7.23 |
| 100695 | 180000 | 20.94 | 7.44 | 408 | 0.2 | 79.3 | 7.06 |
| 100695 | 181500 | 20.98 | 7.47 | 405 | 0.2 | 82.3 | 7.33 |
| 100695 | 183000 | 20.95 | 7.51 | 410 | 0.2 | 82.0 | 7.31 |
| 100695 | 184500 | 21.01 | 7.54 | 414 | 0.2 | 83.9 | 7.47 |
| 100695 | 190000 | 21.05 | 7.56 | 418 | 0.2 | 84.3 | 7.50 |
| 100695 | 191500 | 21.07 | 7.59 | 419 | 0.2 | 84.6 | 7.52 |
| 100695 | 193000 | 21.10 | 7.66 | 420 | 0.2 | 87.7 | 7.79 |
| 100695 | 194500 | 21.14 | 7.70 | 420 | 0.2 | 89.8 | 7.98 |
| 100695 | 200000 | 21.21 | 7.94 | 423 | 0.2 | 94.6 | 8.39 |
| 100695 | 201500 | 21.37 | 8.14 | 426 | 0.2 | 101.6 | 8.98 |
| 100695 | 203000 | 21.38 | 8.19 | 428 | 0.2 | 112.4 | 9.93 |
| 100695 | 204500 | 21.38 | 8.24 | 432 | 0.2 | 113.1 | 9.99 |
| 100695 | 210000 | 21.35 | 8.21 | 434 | 0.2 | 114.8 | 10.15 |
| 100695 | 211500 | 21.28 | 8.15 | 432 | 0.2 | 112.4 | 9.95 |
| 100695 | 213000 | 21.22 | 8.06 | 432 | 0.2 | 108.0 | 9.57 |
| 100695 | 214500 | 21.20 | 7.98 | 433 | 0.2 | 103.5 | 9.18 |
| 100695 | 220000 | 21.15 | 7.93 | 433 | 0.2 | 99.4 | 8.82 |
| 100695 | 221500 | 21.15 | 7.96 | 437 | 0.2 | 97.4 | 8.64 |
| 100695 | 223000 | 21.15 | 8.01 | 443 | 0.2 | 99.5 | 8.30 |
| 100695 | 224500 | 21.14 | 7.99 | 452 | 0.2 | 100.3 | 8.91 |
| 100695 | 230000 | 21.10 | 7.96 | 453 | 0.2 | 98.0 | 8.70 |
| 100695 | 231500 | 21.05 | 7.95 | 451 | 0.2 | 95.6 | 8.50 |
| 100695 | 233000 | 21.03 | 7.93 | 455 | 0.2 | 96.2 | 8.55 |
| 100695 | 234500 | 20.96 | 7.92 | 456 | 0.2 | 94.5 | 8.42 |
| 100795 | 0 | 20.90 | 7.90 | 455 | 0.2 | 93.8 | 8.37 |
| 100795 | 1500 | 20.93 | 7.91 | 455 | 0.2 | 92.8 | 8.27 |
| 100795 | 3000 | 20.93 | 7.88 | 455 | 0.2 | 92.7 | 8.28 |
| 100795 | 4500 | 20.79 | 7.87 | 453 | 0.2 | 91.6 | 8.19 |
| 100795 | 10000 | 20.77 | 7.86 | 452 | 0.2 | 91.5 | 8.18 |
| 100795 | 11500 | 20.75 | 7.84 | 446 | 0.2 | 92.6 | 8.28 |
| 100795 | 13000 | 20.70 | 7.82 | 443 | 0.2 | 92.0 | 8.23 |
| 100795 | 14500 | 20.70 | 7.78 | 441 | 0.2 | 91.5 | 8.19 |
| 100795 | 20000 | 20.65 | 7.71 | 439 | 0.2 | 90.1 | 8.08 |
| 100795 | 21500 | 20.63 | 7.63 | 433 | 0.2 | 88.0 | 7.89 |
| 100795 | 23000 | 20.63 | 7.56 | 421 | 0.2 | 84.9 | 7.62 |
| 100795 | 24500 | 20.56 | 7.54 | 425 | 0.2 | 84.1 | 7.55 |
| 100795 | 30000 | 20.48 | 7.54 | 429 | 0.2 | 81.2 | 7.30 |
| 100795 | 31500 | 20.48 | 7.47 | 423 | 0.2 | 82.9 | 7.45 |
| 100795 | 33000 | 20.39 | 7.45 | 410 | 0.2 | 80.2 | 7.22 |
| 100795 | 34500 | 20.39 | 7.44 | 412 | 0.2 | 78.6 | 7.08 |
| 100795 | 40000 | 20.31 | 7.40 | 404 | 0.2 | 78.8 | 7.11 |
| 100795 | 41500 | 20.32 | 7.39 | 410 | 0.2 | 76.8 | 6.93 |
| 100795 | 43000 | 20.28 | 7.37 | 407 | 0.2 | 76.4 | 6.89 |
| 100795 | 44500 | 20.24 | 7.34 | 401 | 0.2 | 76.4 | 6.90 |
| 100795 | 50000 | 20.23 | 7.34 | 403 | 0.2 | 75.0 | 6.78 |
| 100795 | 51500 | 20.18 | 7.33 | 398 | 0.2 | 75.7 | 6.85 |
| 100795 | 53000 | 20.20 | 7.31 | 398 | 0.2 | 75.0 | 6.79 |
| 100795 | 54500 | 20.16 | 7.30 | 401 | 0.2 | 73.0 | 6.60 |
| 100795 | 60000 | 20.11 | 7.31 | 399 | 0.2 | 73.3 | 6.64 |
| 100795 | 61500 | 20.06 | 7.31 | 399 | 0.2 | 74.3 | 6.74 |
| 100795 | 63000 | 20.06 | 7.31 | 404 | 0.2 | 71.5 | 6.49 |
| 100795 | 64500 | 20.06 | 7.32 | 403 | 0.2 | 71.6 | 6.50 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 100795 | 70000 | 20.06 | 7.31 | 405 | 0.2 | 72.3 | 6.56 |
| 100795 | 71500 | 20.06 | 7.32 | 408 | 0.2 | 71.5 | 6.48 |
| 100795 | 73000 | 20.03 | 7.33 | 411 | 0.2 | 70.4 | 6.39 |
| 100795 | 74500 | 20.02 | 7.34 | 415 | 0.2 | 70.6 | 6.40 |
| 100795 | 80000 | 19.99 | 7.35 | 418 | 0.2 | 70.4 | 6.39 |
| 100795 | 81500 | 20.02 | 7.35 | 422 | 0.2 | 71.4 | 6.48 |
| 100795 | 83000 | 20.00 | 7.35 | 423 | 0.2 | 71.3 | 6.47 |
| 100795 | 84500 | 19.99 | 7.36 | 426 | 0.2 | 71.1 | 6.46 |
| 100795 | 90000 | 19.99 | 7.38 | 428 | 0.2 | 71.9 | 6.53 |
| 100795 | 91500 | 20.02 | 7.40 | 433 | 0.2 | 76.3 | 6.68 |
| 100795 | 93000 | 20.00 | 7.43 | 436 | 0.2 | 73.9 | 6.71 |
| 100795 | 94500 | 20.00 | 7.43 | 437 | 0.2 | 74.1 | 6.73 |
| 100795 | 100000 | 20.02 | 7.44 | 440 | 0.2 | 73.3 | 6.65 |
| 100795 | 101500 | 20.00 | 7.45 | 442 | 0.2 | 73.3 | 6.66 |
| 100795 | 103000 | 20.01 | 7.49 | 444 | 0.2 | 75.3 | 6.84 |
| 100795 | 104500 | 20.01 | 7.50 | 445 | 0.2 | 75.1 | 6.82 |
| 100795 | 110000 | 20.07 | 7.55 | 450 | 0.2 | 78.9 | 7.15 |
| 100795 | 111500 | 20.09 | 7.62 | 452 | 0.2 | 80.5 | 7.29 |
| 100795 | 113000 | 20.13 | 7.66 | 454 | 0.2 | 83.6 | 7.56 |
| 100795 | 114500 | 20.13 | 7.67 | 454 | 0.2 | 83.5 | 7.56 |
| 100795 | 120000 | 20.18 | 7.70 | 456 | 0.2 | 85.6 | 7.74 |
| 100795 | 121500 | 20.25 | 7.78 | 457 | 0.2 | 88.4 | 7.98 |
| 100795 | 123000 | 20.42 | 7.86 | 461 | 0.2 | 91.3 | 8.22 |
| 100795 | 124500 | 20.28 | 7.73 | 456 | 0.2 | 84.4 | 7.62 |
| 100795 | 130000 | 20.66 | 7.91 | 457 | 0.2 | 92.3 | 8.27 |
| 100795 | 131500 | 20.74 | 7.96 | 454 | 0.2 | 97.7 | 8.74 |
| 100795 | 133000 | 20.89 | 8.03 | 450 | 0.2 | 102.6 | 9.16 |
| 100795 | 134500 | 20.89 | 8.01 | 447 | 0.2 | 103.0 | 9.19 |
| 100795 | 140000 | 20.94 | 7.98 | 442 | 0.2 | 103.0 | 9.18 |
| 100795 | 141500 | 20.93 | 7.95 | 435 | 0.2 | 101.1 | 9.02 |
| 100795 | 143000 | 21.03 | 7.97 | 418 | 0.2 | 103.5 | 9.21 |
| 100795 | 144500 | 21.11 | 7.95 | 414 | 0.2 | 104.0 | 9.24 |
| 100795 | 150000 | 21.07 | 7.94 | 415 | 0.2 | 102.7 | 9.13 |
| 100795 | 151500 | 21.03 | 7.90 | 415 | 0.2 | 101.1 | 8.99 |
| 100795 | 153000 | 20.97 | 7.84 | 410 | 0.2 | 98.3 | 8.76 |
| 100795 | 154500 | 20.98 | 7.76 | 412 | 0.2 | 95.6 | 8.52 |
| 100795 | 160000 | 20.93 | 7.72 | 404 | 0.2 | 93.6 | 8.34 |
| 100795 | 161500 | 20.89 | 7.66 | 399 | 0.2 | 92.2 | 8.23 |
| 100795 | 163000 | 20.91 | 7.64 | 400 | 0.2 | 90.5 | 8.07 |
| 100795 | 164500 | 20.89 | 7.64 | 399 | 0.2 | 91.1 | 8.12 |
| 100795 | 170000 | 20.89 | 7.61 | 399 | 0.2 | 89.9 | 8.02 |
| 100795 | 171500 | 20.86 | 7.58 | 401 | 0.2 | 84.6 | 7.55 |
| 100795 | 173000 | 20.93 | 7.52 | 400 | 0.2 | 86.1 | 7.68 |
| 100795 | 174500 | 20.86 | 7.51 | 401 | 0.2 | 81.7 | 7.29 |
| 100795 | 180000 | 20.87 | 7.47 | 398 | 0.2 | 85.5 | 7.63 |
| 100795 | 181500 | 20.87 | 7.48 | 398 | 0.2 | 86.1 | 7.68 |
| 100795 | 183000 | 20.92 | 7.49 | 401 | 0.2 | 87.2 | 7.78 |
| 100795 | 184500 | 20.96 | 7.54 | 399 | 0.2 | 90.8 | 8.09 |
| 100795 | 190000 | 20.93 | 7.59 | 398 | 0.2 | 90.1 | 8.03 |
| 100795 | 191500 | 20.97 | 7.66 | 401 | 0.2 | 92.4 | 8.23 |
| 100795 | 193000 | 20.99 | 7.66 | 403 | 0.2 | 92.0 | 8.19 |
| 100795 | 194500 | 21.03 | 7.69 | 406 | 0.2 | 93.7 | 8.34 |
| 100795 | 200000 | 21.05 | 7.76 | 410 | 0.2 | 96.2 | 8.55 |
| 100795 | 201500 | 21.08 | 7.79 | 413 | 0.2 | 98.3 | 8.74 |
| 100795 | 203000 | 21.07 | 7.84 | 413 | 0.2 | 99.8 | 8.87 |
| 100795 | 204500 | 21.07 | 7.86 | 421 | 0.2 | 104.6 | 9.30 |
| 100795 | 210000 | 21.05 | 7.89 | 419 | 0.2 | 101.6 | 9.03 |
| 100795 | 211500 | 21.01 | 7.86 | 420 | 0.2 | 100.8 | 8.97 |
| 100795 | 213000 | 21.00 | 7.86 | 423 | 0.2 | 101.1 | 9.00 |
| 100795 | 214500 | 20.96 | 7.85 | 424 | 0.2 | 100.8 | 8.98 |
| 100795 | 220000 | 20.97 | 7.91 | 430 | 0.2 | 103.1 | 9.18 |
| 100795 | 221500 | 20.96 | 7.95 | 430 | 0.2 | 101.6 | 9.05 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 100795 | 223000 | 20.96 | 7.99 | 432 | 0.2 | 103.2 | 9.19 |
| 100795 | 224500 | 20.92 | 7.96 | 435 | 0.2 | 102.5 | 9.13 |
| 100795 | 230000 | 20.94 | 7.98 | 440 | 0.2 | 105.3 | 9.39 |
| 100795 | 231500 | 20.91 | 8.04 | 440 | 0.2 | 104.7 | 9.33 |
| 100795 | 233000 | 20.89 | 8.03 | 444 | 0.2 | 105.2 | 9.38 |
| 100795 | 234500 | 20.86 | 8.01 | 446 | 0.2 | 103.8 | 9.26 |
| 100895 | 0 | 20.86 | 7.99 | 448 | 0.2 | 104.4 | 9.32 |
| 100895 | 1500 | 20.82 | 7.98 | 449 | 0.2 | 103.2 | 9.22 |
| 100895 | 3000 | 20.79 | 7.95 | 449 | 0.2 | 101.7 | 9.09 |
| 100895 | 4500 | 20.76 | 7.96 | 449 | 0.2 | 100.4 | 8.98 |
| 100895 | 10000 | 20.77 | 8.02 | 450 | 0.2 | 100.6 | 8.99 |
| 100895 | 11500 | 20.76 | 8.04 | 455 | 0.2 | 101.5 | 9.07 |
| 100895 | 13000 | 20.66 | 8.03 | 455 | 0.2 | 100.7 | 9.02 |
| 100895 | 14500 | 20.65 | 7.98 | 452 | 0.2 | 98.1 | 8.79 |
| 100895 | 20000 | 20.00 | 7.97 | 453 | 0.2 | 98.4 | 8.83 |
| 100895 | 21500 | 20.58 | 7.93 | 451 | 0.2 | 96.9 | 8.70 |
| 100895 | 23000 | 20.56 | 7.87 | 445 | 0.2 | 94.8 | 8.51 |
| 100895 | 24500 | 20.53 | 7.82 | 441 | 0.2 | 92.6 | 8.32 |
| 100895 | 30000 | 20.49 | 7.74 | 431 | 0.2 | 90.3 | 8.12 |
| 100895 | 31500 | 20.46 | 7.68 | 427 | 0.2 | 88.6 | 7.97 |
| 100895 | 33000 | 20.41 | 7.63 | 423 | 0.2 | 87.5 | 7.88 |
| 100895 | 34500 | 20.41 | 7.62 | 424 | 0.2 | 86.3 | 7.78 |
| 100895 | 40000 | 20.35 | 7.59 | 422 | 0.2 | 84.7 | 7.64 |
| 100895 | 41500 | 20.32 | 7.56 | 413 | 0.2 | 84.4 | 7.62 |
| 100895 | 43000 | 20.28 | 7.51 | 407 | 0.2 | 83.5 | 7.54 |
| 100895 | 44500 | 20.25 | 7.48 | 403 | 0.2 | 82.5 | 7.75 |
| 100895 | 50000 | 20.22 | 7.48 | 407 | 0.2 | 81.5 | 7.37 |
| 100895 | 51500 | 20.20 | 7.45 | 403 | 0.2 | 80.8 | 7.31 |
| 100895 | 53000 | 20.16 | 7.43 | 401 | 0.2 | 79.7 | 7.18 |
| 100895 | 54500 | 20.18 | 7.42 | 401 | 0.2 | 79.3 | 7.17 |
| 100895 | 60000 | 20.13 | 7.40 | 402 | 0.2 | 78.0 | 7.07 |
| 100895 | 61500 | 20.13 | 7.39 | 397 | 0.2 | 77.6 | 7.03 |
| 100895 | 63000 | 20.10 | 7.35 | 393 | 0.2 | 77.2 | 6.99 |
| 100895 | 64500 | 20.05 | 7.33 | 397 | 0.2 | 76.1 | 6.90 |
| 100895 | 70000 | 20.00 | 7.34 | 396 | 0.2 | 76.6 | 6.95 |
| 100895 | 71500 | 19.97 | 7.35 | 396 | 0.2 | 75.6 | 6.87 |
| 100895 | 73000 | 19.99 | 7.35 | 397 | 0.2 | 76.3 | 6.93 |
| 100895 | 74500 | 19.98 | 7.35 | 401 | 0.2 | 74.9 | 6.80 |
| 100895 | 80000 | 19.98 | 7.35 | 403 | 0.2 | 74.4 | 6.75 |
| 100895 | 81500 | 19.98 | 7.38 | 407 | 0.2 | 75.8 | 6.89 |
| 100895 | 83000 | 19.98 | 7.41 | 414 | 0.2 | 76.3 | 6.93 |
| 100895 | 84500 | 19.97 | 7.41 | 415 | 0.2 | 75.8 | 6.89 |
| 100895 | 90000 | 19.97 | 7.40 | 420 | 0.2 | 75.6 | 6.87 |
| 100895 | 91500 | 19.97 | 7.40 | 422 | 0.2 | 75.6 | 6.87 |
| 100895 | 93000 | 19.92 | 7.39 | 422 | 0.2 | 74.4 | 6.76 |
| 100895 | 94500 | 19.97 | 7.44 | 429 | 0.2 | 77.1 | 7.00 |
| 100895 | 100000 | 19.97 | 7.48 | 433 | 0.2 | 79.3 | 7.20 |
| 100895 | 101500 | 20.06 | 7.55 | 440 | 0.2 | 82.8 | 7.51 |
| 100895 | 103000 | 20.13 | 7.64 | 445 | 0.2 | 87.0 | 7.88 |
| 100895 | 104500 | 20.20 | 7.69 | 449 | 0.2 | 89.9 | 8.13 |
| 100895 | 110000 | 20.25 | 7.75 | 449 | 0.2 | 92.1 | 8.32 |
| 100895 | 111500 | 20.25 | 7.75 | 452 | 0.2 | 91.9 | 8.30 |
| 100895 | 113000 | 20.29 | 7.81 | 452 | 0.2 | 93.9 | 8.48 |
| 100895 | 114500 | 20.44 | 7.86 | 453 | 0.2 | 98.7 | 8.88 |
| 100895 | 120000 | 20.44 | 7.88 | 455 | 0.2 | 97.1 | 8.74 |
| 100895 | 121500 | 20.72 | 7.87 | 458 | 0.2 | 98.4 | 8.81 |
| 100895 | 123000 | 20.42 | 7.76 | 455 | 0.2 | 90.7 | 8.17 |
| 100895 | 124500 | 20.35 | 7.75 | 454 | 0.2 | 86.3 | 7.78 |
| 100895 | 130000 | 20.39 | 7.71 | 455 | 0.2 | 85.4 | 7.69 |
| 100895 | 131500 | 20.40 | 7.83 | 455 | 0.2 | 90.5 | 8.15 |
| 100895 | 133000 | 20.61 | 7.93 | 454 | 0.2 | 93.0 | 8.34 |
| 100895 | 134500 | 21.21 | 8.12 | 451 | 0.2 | 107.2 | 9.50 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 100895 | 140000 | 21.00 | 8.14 | 446 | 0.2 | 109.1 | 9.72 |
| 100895 | 141500 | 21.14 | 8.15 | 440 | 0.2 | 110.3 | 9.79 |
| 100895 | 143000 | 21.15 | 8.11 | 433 | 0.2 | 108.9 | 9.67 |
| 100895 | 144500 | 21.12 | 8.09 | 424 | 0.2 | 108.6 | 9.64 |
| 100895 | 150000 | 21.16 | 8.08 | 418 | 0.2 | 109.1 | 9.68 |
| 100895 | 151500 | 21.26 | 8.08 | 408 | 0.2 | 110.3 | 9.77 |
| 100895 | 153000 | 21.24 | 8.06 | 408 | 0.2 | 109.2 | 9.67 |
| 100895 | 154500 | 21.22 | 8.03 | 408 | 0.2 | 108.1 | 9.58 |
| 100895 | 160000 | 21.19 | 7.99 | 409 | 0.2 | 105.8 | 9.38 |
| 100895 | 161500 | 21.17 | 7.94 | 404 | 0.2 | 103.9 | 9.22 |
| 100895 | 163000 | 21.13 | 7.88 | 395 | 0.2 | 102.8 | 9.13 |
| 100895 | 164500 | 21.15 | 7.84 | 397 | 0.2 | 100.6 | 8.93 |
| 100895 | 170000 | 21.09 | 7.80 | 389 | 0.2 | 98.6 | 8.76 |
| 100895 | 171500 | 21.07 | 7.78 | 386 | 0.2 | 99.0 | 8.80 |
| 100895 | 173000 | 21.10 | 7.76 | 388 | 0.2 | 98.1 | 8.72 |
| 100895 | 174500 | 21.30 | 7.69 | 389 | 0.2 | 97.5 | 8.66 |
| 100895 | 180000 | 21.07 | 7.73 | 389 | 0.2 | 96.8 | 8.60 |
| 100895 | 181500 | 21.07 | 7.69 | 389 | 0.2 | 96.4 | 8.57 |
| 100895 | 183000 | 21.07 | 7.63 | 388 | 0.2 | 92.8 | 8.25 |
| 100895 | 184500 | 21.07 | 7.60 | 386 | 0.2 | 92.9 | 8.26 |
| 100895 | 190000 | 21.11 | 7.62 | 390 | 0.2 | 94.6 | 8.40 |
| 100895 | 191500 | 21.10 | 7.62 | 390 | 0.2 | 93.9 | 8.34 |
| 100895 | 193000 | 21.08 | 7.70 | 387 | 0.2 | 96.5 | 8.58 |
| 100895 | 194500 | 21.14 | 7.76 | 391 | 0.2 | 100.2 | 8.90 |
| 100895 | 200000 | 21.14 | 7.85 | 397 | 0.2 | 102.0 | 9.06 |
| 100895 | 201500 | 21.17 | 7.90 | 407 | 0.2 | 102.8 | 9.13 |
| 100895 | 203000 | 21.15 | 7.93 | 407 | 0.2 | 103.5 | 9.19 |
| 100895 | 204500 | 21.15 | 7.93 | 410 | 0.2 | 103.5 | 9.19 |
| 100895 | 210000 | 21.14 | 7.94 | 413 | 0.2 | 104.0 | 9.23 |
| 100895 | 211500 | 21.10 | 7.93 | 411 | 0.2 | 100.4 | 8.92 |
| 100895 | 213000 | 21.10 | 7.92 | 415 | 0.2 | 102.7 | 9.12 |
| 100895 | 214500 | 21.05 | 7.89 | 415 | 0.2 | 101.2 | 9.00 |
| 100895 | 220000 | 21.05 | 7.97 | 421 | 0.2 | 105.6 | 9.39 |
| 100895 | 221500 | 21.05 | 8.02 | 426 | 0.2 | 107.6 | 9.57 |
| 100895 | 223000 | 21.04 | 8.09 | 433 | 0.2 | 110.5 | 9.83 |
| 100895 | 224500 | 21.07 | 8.16 | 437 | 0.2 | 113.4 | 10.08 |
| 100895 | 230000 | 21.10 | 8.21 | 442 | 0.2 | 116.8 | 10.38 |
| 100895 | 231500 | 21.05 | 8.22 | 442 | 0.2 | 115.3 | 10.25 |
| 100895 | 233000 | 21.08 | 8.24 | 447 | 0.2 | 118.2 | 10.50 |
| 100895 | 234500 | 21.05 | 8.26 | 447 | 0.2 | 117.1 | 10.42 |
| 100995 | 0 | 21.00 | 8.24 | 447 | 0.2 | 114.7 | 10.21 |
| 100995 | 1500 | 21.00 | 8.24 | 449 | 0.2 | 114.9 | 10.23 |
| 100995 | 3000 | 21.00 | 8.23 | 455 | 0.2 | 114.5 | 10.19 |
| 100995 | 4500 | 20.93 | 8.19 | 454 | 0.2 | 113.0 | 10.07 |
| 100995 | 10000 | 20.89 | 8.17 | 458 | 0.2 | 112.0 | 9.99 |
| 100995 | 11500 | 20.84 | 0.17 | 459 | 0.2 | 110.7 | 9.89 |
| 100995 | 13000 | 20.79 | 8.14 | 460 | 0.2 | 108.7 | 9.72 |
| 100995 | 14500 | 21.79 | 8.16 | 462 | 0.2 | 109.3 | 9.77 |
| 100995 | 20000 | 20.76 | 8.13 | 460 | 0.2 | 106.1 | 9.49 |
| 100995 | 21500 | 20.66 | 8.13 | 460 | 0.2 | 106.5 | 9.54 |
| 100995 | 23000 | 20.66 | 8.12 | 460 | 0.2 | 106.4 | 9.53 |
| 100995 | 24500 | 20.62 | 8.11 | 458 | 0.2 | 105.3 | 9.44 |
| 100995 | 30000 | 20.58 | 8.07 | 455 | 0.2 | 103.8 | 9.32 |
| 100995 | 31500 | 20.54 | 8.05 | 454 | 0.2 | 102.1 | 9.17 |
| 100995 | 33000 | 20.51 | 7.98 | 450 | 0.2 | 100.1 | 9.00 |
| 100995 | 34500 | 20.47 | 7.91 | 445 | 0.2 | 97.4 | 8.76 |
| 100995 | 40000 | 20.42 | 7.81 | 437 | 0.2 | 93.5 | 8.42 |
| 100995 | 41500 | 20.40 | 7.74 | 430 | 0.2 | 91.5 | 8.25 |
| 100995 | 43000 | 20.37 | 7.65 | 420 | 0.2 | 8.7 | 8.00 |
| 100995 | 44500 | 20.30 | 7.65 | 421 | 0.2 | 88.5 | 7.98 |
| 100995 | 50000 | 20.28 | 7.60 | 412 | 0.2 | 87.4 | 7.89 |
| 100995 | 51500 | 20.25 | 7.57 | 415 | 0.2 | 86.3 | 7.80 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 100995 | 53000 | 20.23 | 7.56 | 410 | 0.2 | 85.4 | 7.72 |
| 100995 | 54500 | 20.20 | 7.51 | 406 | 0.2 | 84.4 | 7.63 |
| 100995 | 60000 | 20.17 | 7.47 | 401 | 0.2 | 83.4 | 7.55 |
| 100995 | 61500 | 20.16 | 7.44 | 399 | 0.2 | 83.0 | 7.51 |
| 100995 | 63000 | 20.13 | 7.39 | 400 | 0.2 | 81.4 | 7.37 |
| 100995 | 64500 | 20.11 | 7.41 | 395 | 0.2 | 80.9 | 7.33 |
| 100995 | 70000 | 20.06 | 7.39 | 397 | 0.2 | 79.5 | 7.21 |
| 100995 | 71500 | 20.06 | 7.38 | 396 | 0.2 | 79.0 | 7.17 |
| 100995 | 73000 | 20.02 | 7.37 | 395 | 0.2 | 79.0 | 7.17 |
| 100995 | 74500 | 19.97 | 7.38 | 397 | 0.2 | 79.4 | 7.21 |
| 100995 | 80000 | 19.95 | 7.38 | 395 | 0.2 | 78.7 | 7.15 |
| 100995 | 81500 | 19.95 | 7.39 | 399 | 0.2 | 78.6 | 7.14 |
| 100995 | 83000 | 19.99 | 7.41 | 405 | 0.2 | 79.6 | 7.23 |
| 100995 | 84500 | 19.98 | 7.41 | 409 | 0.2 | 78.3 | 7.11 |
| 100995 | 90000 | 19.99 | 7.47 | 414 | 0.2 | 80.1 | 7.27 |
| 100995 | 91500 | 19.96 | 7.47 | 417 | 0.2 | 79.5 | 7.22 |
| 100995 | 93000 | 19.97 | 7.49 | 422 | 0.2 | 80.3 | 7.29 |
| 100995 | 94500 | 19.95 | 7.47 | 422 | 0.2 | 78.9 | 7.17 |
| 100995 | 100000 | 19.94 | 7.48 | 427 | 0.2 | 80.5 | 7.32 |
| 100995 | 101500 | 19.92 | 7.49 | 427 | 0.2 | 80.4 | 7.31 |
| 100995 | 103000 | 20.03 | 7.59 | 437 | 0.2 | 85.4 | 7.75 |
| 100995 | 104500 | 21.18 | 7.68 | 444 | 0.2 | 91.0 | 8.23 |
| 100995 | 110000 | 20.16 | 7.72 | 446 | 0.2 | 89.4 | 8.09 |
| 100995 | 111500 | 20.25 | 7.71 | 449 | 0.2 | 8..6 | 8.46 |
| 100995 | 113000 | 20.21 | 7.72 | 450 | 0.2 | 80.9 | 8.22 |
| 100995 | 114500 | 20.29 | 7.74 | 450 | 0.2 | 92.6 | 8.36 |
| 100995 | 120000 | 20.42 | 7.84 | 452 | 0.2 | 96.7 | 8.70 |
| 100995 | 121500 | 20.59 | 7.97 | 455 | 0.2 | 106.4 | 9.54 |
| 100995 | 123000 | 20.82 | 8.03 | 459 | 0.2 | 111.0 | 9.92 |
| 100995 | 124500 | 20.35 | 7.91 | 456 | 0.2 | 93.4 | 8.42 |
| 100995 | 130000 | 20.35 | 7.77 | 456 | 0.2 | 90.3 | 8.14 |
| 100995 | 131500 | 20.33 | 7.79 | 456 | 0.2 | 88.7 | 8.00 |
| 100995 | 133000 | 20.27 | 7.75 | 456 | 0.2 | 86.4 | 7.80 |
| 100995 | 134500 | 20.46 | 7.87 | 457 | 0.2 | 91.2 | 8.21 |
| 100995 | 140000 | 20.66 | 7.98 | 456 | 0.2 | 97.6 | 8.74 |
| 100995 | 141500 | 20.93 | 8.19 | 454 | 0.2 | 109.3 | 9.74 |
| 100995 | 143000 | 21.15 | 8.20 | 448 | 0.2 | 112.9 | 10.01 |
| 100995 | 144500 | 21.33 | 8.25 | 444 | 0.2 | 116.0 | 10.26 |
| 100995 | 150000 | 21.29 | 8.22 | 433 | 0.2 | 115.3 | 10.20 |
| 100995 | 151500 | 21.26 | 8.21 | 421 | 0.2 | 116.0 | 10.27 |
| 100995 | 153000 | 21.28 | 8.19 | 421 | 0.2 | 115.3 | 10.21 |
| 100995 | 154500 | 21.36 | 8.20 | 410 | 0.2 | 116.8 | 10.33 |
| 100995 | 160000 | 21.39 | 8.19 | 405 | 0.2 | 117.0 | 10.34 |
| 100995 | 161500 | 21.35 | 8.15 | 408 | 0.2 | 115.0 | 10.17 |
| 100995 | 163000 | 21.28 | 8.09 | 401 | 0.2 | 111.9 | 9.91 |
| 100995 | 164500 | 21.28 | 8.04 | 404 | 0.2 | 109.2 | 9.67 |

Figure 2. Dissolved oxygen measurements in Smith Canal from 14 to 17 October 1995.

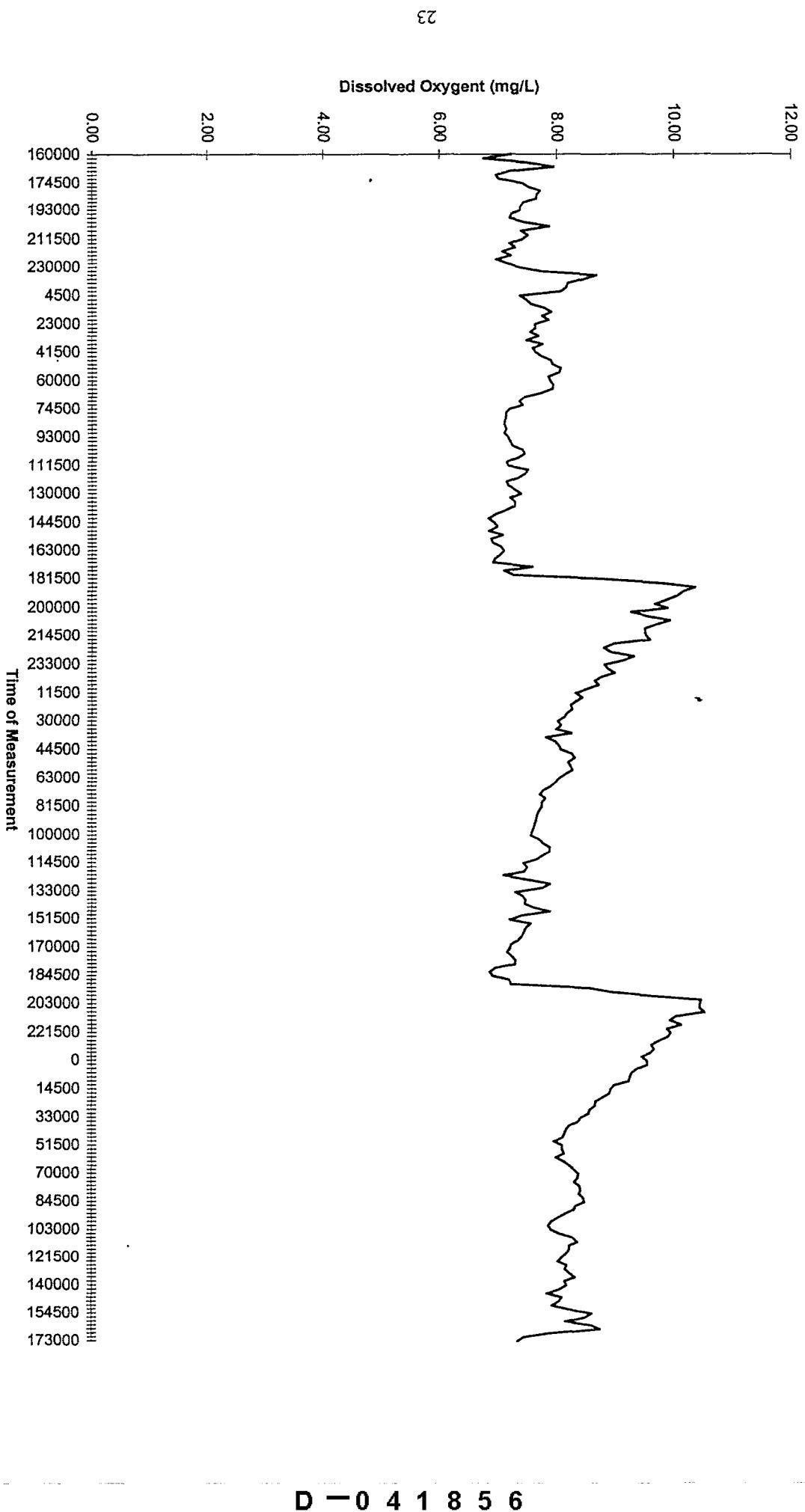


Table 2. Summary of water quality parameters measured in Smith Canal from 14 to 17 October 1995.

| Date MMDDYY | Time HRMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 101495 | 160000 | 19.63 | 7.55 | 406 | 0.2 | 78.9 | 7.22 |
| 101495 | 161500 | 19.42 | 7.50 | 413 | 0.2 | 73.4 | 6.75 |
| 101495 | 163000 | 19.45 | 7.62 | 421 | 0.2 | 81.6 | 7.49 |
| 101495 | 164500 | 19.57 | 7.70 | 420 | 0.2 | 86.8 | 7.94 |
| 101495 | 170000 | 19.64 | 7.55 | 412 | 0.2 | 78.7 | 7.20 |
| 101495 | 171500 | 19.59 | 7.49 | 403 | 0.2 | 76.0 | 6.96 |
| 101495 | 173000 | 19.61 | 7.49 | 401 | 0.2 | 76.7 | 7.01 |
| 101495 | 174500 | 19.77 | 7.58 | 400 | 0.2 | 81.3 | 7.41 |
| 101495 | 180000 | 19.76 | 7.57 | 394 | 0.2 | 82.3 | 7.51 |
| 101495 | 181500 | 19.73 | 7.60 | 396 | 0.2 | 84.5 | 7.71 |
| 101495 | 183000 | 19.75 | 7.61 | 394 | 0.2 | 83.9 | 7.65 |
| 101495 | 184500 | 19.68 | 7.58 | 392 | 0.2 | 83.6 | 7.64 |
| 101495 | 190000 | 19.88 | 7.55 | 395 | 0.2 | 81.6 | 7.42 |
| 101495 | 191500 | 19.65 | 7.53 | 392 | 0.2 | 80.7 | 7.38 |
| 101495 | 193000 | 19.75 | 7.51 | 393 | 0.2 | 80.8 | 7.37 |
| 101495 | 194500 | 19.63 | 7.51 | 392 | 0.2 | 79.0 | 7.23 |
| 101495 | 200000 | 19.60 | 7.51 | 388 | 0.2 | 78.7 | 7.20 |
| 101495 | 201500 | 19.81 | 7.50 | 381 | 0.2 | 81.6 | 7.44 |
| 101495 | 203000 | 19.85 | 7.63 | 373 | 0.2 | 86.4 | 7.87 |
| 101495 | 204500 | 19.67 | 7.53 | 376 | 0.2 | 80.8 | 7.39 |
| 101495 | 210000 | 19.77 | 7.51 | 368 | 0.2 | 82.2 | 7.50 |
| 101495 | 211500 | 19.80 | 7.49 | 369 | 0.2 | 81.1 | 7.40 |
| 101495 | 213000 | 19.71 | 7.46 | 376 | 0.2 | 78.7 | 7.19 |
| 101495 | 214500 | 19.71 | 7.45 | 374 | 0.2 | 79.7 | 7.28 |
| 101495 | 220000 | 19.63 | 7.43 | 373 | 0.2 | 77.2 | 7.07 |
| 101495 | 221500 | 19.69 | 7.43 | 371 | 0.2 | 78.9 | 7.21 |
| 101495 | 223000 | 19.73 | 7.43 | 377 | 0.2 | 76.3 | 6.96 |
| 101495 | 224500 | 19.81 | 7.44 | 385 | 0.2 | 78.3 | 7.14 |
| 101495 | 230000 | 19.85 | 7.47 | 384 | 0.2 | 80.7 | 7.35 |
| 101495 | 231500 | 20.01 | 7.60 | 375 | 0.2 | 85.1 | 7.73 |
| 101495 | 233000 | 20.11 | 7.78 | 370 | 0.2 | 95.8 | 8.68 |
| 101495 | 234500 | 20.04 | 7.85 | 376 | 0.2 | 93.3 | 8.46 |
| 101595 | 0 | 20.01 | 7.76 | 379 | 0.2 | 90.2 | 8.19 |
| 101595 | 1500 | 19.99 | 7.71 | 384 | 0.2 | 89.8 | 8.16 |
| 101595 | 3000 | 19.98 | 7.70 | 389 | 0.2 | 88.8 | 8.07 |
| 101595 | 4500 | 19.90 | 7.57 | 390 | 0.2 | 81.0 | 7.37 |
| 101595 | 10000 | 19.88 | 7.57 | 397 | 0.2 | 82.1 | 7.47 |
| 101595 | 11500 | 19.88 | 7.58 | 399 | 0.2 | 83.0 | 7.55 |
| 101595 | 13000 | 19.90 | 7.60 | 399 | 0.2 | 85.5 | 7.78 |
| 101595 | 14500 | 19.86 | 7.62 | 403 | 0.2 | 86.7 | 7.90 |
| 101595 | 20000 | 19.85 | 7.59 | 403 | 0.2 | 85.0 | 7.74 |
| 101595 | 21500 | 19.82 | 7.59 | 409 | 0.2 | 86.1 | 7.85 |
| 101595 | 23000 | 19.80 | 7.62 | 407 | 0.2 | 83.6 | 7.62 |
| 101595 | 24500 | 19.79 | 7.61 | 410 | 0.2 | 83.6 | 7.62 |
| 101595 | 30000 | 19.77 | 7.62 | 412 | 0.2 | 82.7 | 7.54 |
| 101595 | 31500 | 19.76 | 7.61 | 414 | 0.2 | 84.1 | 7.68 |
| 101595 | 33000 | 19.71 | 7.61 | 415 | 0.2 | 81.9 | 7.48 |
| 101595 | 34500 | 19.70 | 7.63 | 419 | 0.2 | 84.9 | 7.75 |
| 101595 | 40000 | 19.66 | 7.64 | 419 | 0.2 | 83.0 | 7.59 |
| 101595 | 41500 | 19.65 | 7.63 | 422 | 0.2 | 83.4 | 7.63 |
| 101595 | 43000 | 19.63 | 7.63 | 425 | 0.2 | 84.5 | 7.73 |
| 101595 | 44500 | 19.63 | 7.69 | 427 | 0.2 | 86.2 | 7.89 |
| 101595 | 50000 | 19.60 | 7.71 | 431 | 0.2 | 86.6 | 7.92 |
| 101595 | 51500 | 19.58 | 7.73 | 438 | 0.2 | 88.1 | 8.06 |
| 101595 | 53000 | 19.57 | 7.71 | 438 | 0.2 | 87.7 | 8.03 |
| 101595 | 54500 | 19.52 | 7.69 | 437 | 0.2 | 85.6 | 7.85 |
| 101595 | 60000 | 19.47 | 7.69 | 437 | 0.2 | 85.9 | 7.88 |
| 101595 | 61500 | 19.46 | 7.73 | 438 | 0.2 | 86.5 | 7.93 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 101595 | 63000 | 19.45 | 7.73 | 440 | 0.2 | 86.2 | 7.92 |
| 101595 | 64500 | 19.36 | 7.69 | 437 | 0.2 | 83.9 | 7.72 |
| 101595 | 70000 | 19.33 | 7.63 | 433 | 0.2 | 80.9 | 7.44 |
| 101595 | 71500 | 19.30 | 7.61 | 432 | 0.2 | 79.9 | 7.36 |
| 101595 | 73000 | 19.29 | 7.61 | 432 | 0.2 | 80.4 | 7.41 |
| 101595 | 74500 | 19.25 | 7.57 | 426 | 0.2 | 78.0 | 7.19 |
| 101595 | 80000 | 19.24 | 7.55 | 423 | 0.2 | 77.4 | 7.13 |
| 101595 | 81500 | 19.22 | 7.54 | 419 | 0.2 | 77.3 | 7.13 |
| 101595 | 83000 | 19.22 | 7.52 | 415 | 0.2 | 77.1 | 7.11 |
| 101595 | 84500 | 19.23 | 7.51 | 410 | 0.2 | 77.1 | 7.10 |
| 101595 | 90000 | 19.21 | 7.50 | 402 | 0.2 | 77.3 | 7.13 |
| 101595 | 91500 | 19.18 | 7.49 | 399 | 0.2 | 76.9 | 7.10 |
| 101595 | 93000 | 19.18 | 7.49 | 394 | 0.2 | 77.6 | 7.16 |
| 101595 | 94500 | 19.18 | 7.48 | 390 | 0.2 | 78.0 | 7.20 |
| 101595 | 100000 | 19.19 | 7.48 | 385 | 0.2 | 78.4 | 7.23 |
| 101595 | 101500 | 19.23 | 7.50 | 382 | 0.2 | 80.3 | 7.40 |
| 101595 | 103000 | 19.25 | 7.50 | 380 | 0.2 | 80.7 | 7.44 |
| 101595 | 104500 | 19.24 | 7.49 | 381 | 0.2 | 79.5 | 7.33 |
| 101595 | 110000 | 19.21 | 7.45 | 379 | 0.2 | 77.4 | 7.14 |
| 101595 | 111500 | 19.20 | 7.46 | 378 | 0.2 | 77.7 | 7.17 |
| 101595 | 113000 | 19.30 | 7.52 | 375 | 0.2 | 81.4 | 7.50 |
| 101595 | 114500 | 19.30 | 7.47 | 373 | 0.2 | 80.9 | 7.45 |
| 101595 | 120000 | 19.30 | 7.47 | 373 | 0.2 | 79.6 | 7.33 |
| 101595 | 121500 | 19.27 | 7.44 | 373 | 0.2 | 77.4 | 7.14 |
| 101595 | 123000 | 19.28 | 7.43 | 371 | 0.2 | 77.8 | 7.17 |
| 101595 | 124500 | 19.29 | 7.45 | 376 | 0.2 | 79.0 | 7.28 |
| 101595 | 130000 | 19.32 | 7.47 | 376 | 0.2 | 80.1 | 7.38 |
| 101595 | 131500 | 19.37 | 7.47 | 374 | 0.2 | 78.3 | 7.20 |
| 101595 | 133000 | 19.36 | 7.47 | 374 | 0.2 | 79.1 | 7.28 |
| 101595 | 134500 | 19.40 | 7.46 | 376 | 0.2 | 79.2 | 7.27 |
| 101595 | 140000 | 19.38 | 7.46 | 379 | 0.2 | 77.6 | 7.13 |
| 101595 | 141500 | 19.37 | 7.44 | 383 | 0.2 | 75.5 | 6.94 |
| 101595 | 143000 | 19.37 | 7.42 | 385 | 0.2 | 74.3 | 6.83 |
| 101595 | 144500 | 19.41 | 7.44 | 387 | 0.2 | 75.3 | 6.92 |
| 101595 | 150000 | 19.42 | 7.45 | 387 | 0.2 | 76.0 | 6.98 |
| 101595 | 151500 | 19.40 | 7.44 | 390 | 0.2 | 74.4 | 6.84 |
| 101595 | 153000 | 19.50 | 7.48 | 387 | 0.2 | 77.1 | 7.07 |
| 101595 | 154500 | 19.48 | 7.45 | 388 | 0.2 | 75.0 | 6.88 |
| 101595 | 160000 | 19.54 | 7.47 | 388 | 0.2 | 75.4 | 6.91 |
| 101595 | 161500 | 19.50 | 7.48 | 391 | 0.2 | 76.8 | 7.04 |
| 101595 | 163000 | 19.53 | 7.50 | 392 | 0.2 | 77.3 | 7.09 |
| 101595 | 164500 | 19.49 | 7.48 | 398 | 0.2 | 76.6 | 7.03 |
| 101595 | 170000 | 19.47 | 7.51 | 403 | 0.2 | 75.6 | 6.94 |
| 101595 | 171500 | 19.50 | 7.49 | 402 | 0.2 | 75.4 | 6.91 |
| 101595 | 173000 | 19.70 | 7.70 | 396 | 0.2 | 82.9 | 7.57 |
| 101595 | 174500 | 19.57 | 7.53 | 400 | 0.2 | 77.5 | 7.09 |
| 101595 | 180000 | 19.64 | 7.63 | 400 | 0.2 | 79.1 | 7.24 |
| 101595 | 181500 | 20.00 | 7.90 | 392 | 0.2 | 96.5 | 8.76 |
| 101595 | 183000 | 20.20 | 8.06 | 376 | 0.2 | 108.2 | 9.79 |
| 101595 | 184500 | 20.20 | 8.21 | 371 | 0.2 | 114.4 | 10.35 |
| 101595 | 190000 | 20.16 | 8.19 | 369 | 0.2 | 112.2 | 10.16 |
| 101595 | 191500 | 20.12 | 8.23 | 370 | 0.2 | 111.1 | 10.06 |
| 101595 | 193000 | 20.09 | 8.14 | 370 | 0.2 | 109.0 | 9.88 |
| 101595 | 194500 | 20.06 | 8.11 | 367 | 0.2 | 106.7 | 9.68 |
| 101595 | 200000 | 20.07 | 8.08 | 363 | 0.2 | 109.1 | 9.89 |
| 101595 | 201500 | 19.99 | 7.99 | 365 | 0.2 | 102.1 | 9.27 |
| 101595 | 203000 | 19.96 | 7.97 | 358 | 0.2 | 104.9 | 9.54 |
| 101595 | 204500 | 19.94 | 8.04 | 346 | 0.2 | 109.2 | 9.93 |
| 101595 | 210000 | 19.94 | 7.95 | 352 | 0.2 | 106.7 | 9.70 |
| 101595 | 211500 | 19.94 | 7.91 | 353 | 0.2 | 104.6 | 9.51 |
| 101595 | 213000 | 19.92 | 7.85 | 353 | 0.2 | 104.5 | 9.51 |
| 101595 | 214500 | 19.85 | 7.93 | 343 | 0.2 | 104.6 | 9.53 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 101595 | 220000 | 19.80 | 7.94 | 341 | 0.2 | 105.2 | 9.59 |
| 101595 | 221500 | 19.80 | 7.84 | 347 | 0.2 | 98.4 | 8.97 |
| 101595 | 223000 | 19.80 | 7.69 | 350 | 0.2 | 96.5 | 8.80 |
| 101595 | 224500 | 19.79 | 7.71 | 350 | 0.2 | 97.8 | 8.92 |
| 101595 | 230000 | 19.75 | 7.79 | 347 | 0.2 | 102.1 | 9.32 |
| 101595 | 231500 | 19.75 | 7.70 | 352 | 0.2 | 100.2 | 9.14 |
| 101595 | 233000 | 19.75 | 7.73 | 357 | 0.2 | 96.7 | 8.82 |
| 101595 | 234500 | 19.73 | 7.73 | 359 | 0.2 | 97.2 | 8.87 |
| 101695 | 0 | 19.68 | 7.78 | 361 | 0.2 | 98.4 | 8.99 |
| 101695 | 1500 | 19.68 | 7.75 | 366 | 0.2 | 95.9 | 8.76 |
| 101695 | 3000 | 19.65 | 7.72 | 371 | 0.2 | 94.5 | 8.65 |
| 101695 | 4500 | 19.63 | 7.74 | 370 | 0.2 | 95.3 | 8.71 |
| 101695 | 10000 | 19.63 | 7.66 | 381 | 0.2 | 92.9 | 8.49 |
| 101695 | 11500 | 19.58 | 7.68 | 375 | 0.2 | 90.9 | 8.32 |
| 101695 | 13000 | 19.58 | 7.66 | 387 | 0.2 | 92.1 | 8.43 |
| 101695 | 14500 | 19.56 | 7.68 | 392 | 0.2 | 90.9 | 8.33 |
| 101695 | 20000 | 19.54 | 7.67 | 395 | 0.2 | 89.9 | 8.24 |
| 101695 | 21500 | 19.50 | 7.70 | 402 | 0.2 | 90.1 | 8.26 |
| 101695 | 23000 | 19.49 | 7.60 | 405 | 0.2 | 89.0 | 8.17 |
| 101695 | 24500 | 19.45 | 7.66 | 413 | 0.2 | 88.4 | 8.12 |
| 101695 | 30000 | 19.42 | 7.63 | 415 | 0.2 | 87.3 | 8.02 |
| 101695 | 31500 | 19.40 | 7.65 | 419 | 0.2 | 87.9 | 8.07 |
| 101695 | 33000 | 19.37 | 7.68 | 420 | 0.2 | 86.9 | 7.99 |
| 101695 | 34500 | 19.37 | 7.70 | 428 | 0.2 | 89.7 | 8.25 |
| 101695 | 40000 | 19.30 | 7.69 | 423 | 0.2 | 84.9 | 7.81 |
| 101695 | 41500 | 19.30 | 7.70 | 430 | 0.2 | 86.6 | 7.97 |
| 101695 | 43000 | 19.28 | 7.69 | 431 | 0.2 | 87.2 | 8.03 |
| 101695 | 44500 | 19.24 | 7.70 | 435 | 0.2 | 87.5 | 8.07 |
| 101695 | 50000 | 19.25 | 7.73 | 440 | 0.2 | 89.5 | 8.25 |
| 101695 | 51500 | 19.21 | 7.71 | 443 | 0.2 | 90.0 | 8.30 |
| 101695 | 53000 | 19.18 | 7.76 | 443 | 0.2 | 88.7 | 8.19 |
| 101695 | 54500 | 19.14 | 7.78 | 446 | 0.2 | 89.1 | 8.23 |
| 101695 | 60000 | 19.11 | 7.81 | 448 | 0.2 | 89.4 | 8.26 |
| 101695 | 61500 | 19.08 | 7.77 | 451 | 0.2 | 88.0 | 8.14 |
| 101695 | 63000 | 19.07 | 7.76 | 450 | 0.2 | 86.8 | 8.03 |
| 101695 | 64500 | 19.04 | 7.75 | 453 | 0.2 | 86.1 | 7.97 |
| 101695 | 70000 | 18.98 | 7.72 | 454 | 0.2 | 85.3 | 7.90 |
| 101695 | 71500 | 18.99 | 7.71 | 454 | 0.2 | 83.9 | 7.77 |
| 101695 | 73000 | 18.96 | 7.69 | 456 | 0.2 | 83.2 | 7.71 |
| 101695 | 74500 | 18.92 | 7.71 | 457 | 0.2 | 84.1 | 7.80 |
| 101695 | 80000 | 18.97 | 7.70 | 456 | 0.2 | 83.5 | 7.74 |
| 101695 | 81500 | 18.89 | 7.70 | 452 | 0.2 | 83.4 | 7.74 |
| 101695 | 83000 | 18.87 | 7.68 | 447 | 0.2 | 82.8 | 7.69 |
| 101695 | 84500 | 18.85 | 7.66 | 442 | 0.2 | 82.5 | 7.66 |
| 101695 | 90000 | 18.88 | 7.65 | 437 | 0.2 | 82.3 | 7.64 |
| 101695 | 91500 | 18.88 | 7.63 | 433 | 0.2 | 82.0 | 7.62 |
| 101695 | 93000 | 18.88 | 7.61 | 425 | 0.2 | 81.8 | 7.60 |
| 101695 | 94500 | 18.87 | 7.59 | 416 | 0.2 | 81.5 | 7.57 |
| 101695 | 100000 | 18.85 | 7.57 | 408 | 0.2 | 81.3 | 7.55 |
| 101695 | 101500 | 18.89 | 7.57 | 399 | 0.2 | 82.8 | 7.69 |
| 101695 | 103000 | 18.93 | 7.58 | 394 | 0.2 | 83.7 | 7.76 |
| 101695 | 104500 | 18.99 | 7.59 | 388 | 0.2 | 85.0 | 7.88 |
| 101695 | 110000 | 19.01 | 7.60 | 388 | 0.2 | 85.1 | 7.88 |
| 101695 | 111500 | 18.95 | 7.59 | 391 | 0.2 | 83.6 | 7.76 |
| 101695 | 113000 | 18.96 | 7.57 | 386 | 0.2 | 82.7 | 7.66 |
| 101695 | 114500 | 18.93 | 7.53 | 385 | 0.2 | 80.1 | 7.43 |
| 101695 | 120000 | 18.97 | 7.53 | 383 | 0.2 | 80.8 | 7.49 |
| 101695 | 121500 | 18.99 | 7.52 | 382 | 0.2 | 80.3 | 7.44 |
| 101695 | 123000 | 18.98 | 7.47 | 382 | 0.2 | 76.5 | 7.09 |
| 101695 | 124500 | 18.99 | 7.48 | 380 | 0.2 | 80.6 | 7.47 |
| 101695 | 130000 | 19.06 | 7.52 | 377 | 0.2 | 85.2 | 7.88 |
| 101695 | 131500 | 19.11 | 7.54 | 373 | 0.2 | 83.7 | 7.74 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 101695 | 133000 | 19.03 | 7.49 | 376 | 0.2 | 78.7 | 7.29 |
| 101695 | 134500 | 19.04 | 7.48 | 378 | 0.2 | 80.1 | 7.41 |
| 101695 | 140000 | 19.06 | 7.51 | 383 | 0.2 | 80.7 | 7.46 |
| 101695 | 141500 | 19.06 | 7.51 | 384 | 0.2 | 80.5 | 7.45 |
| 101695 | 143000 | 19.06 | 7.55 | 386 | 0.2 | 82.1 | 7.60 |
| 101695 | 144500 | 19.13 | 7.58 | 384 | 0.2 | 85.2 | 7.88 |
| 101695 | 150000 | 19.07 | 7.53 | 388 | 0.2 | 80.0 | 7.40 |
| 101695 | 151500 | 19.06 | 7.51 | 391 | 0.2 | 77.9 | 7.20 |
| 101695 | 153000 | 19.22 | 7.54 | 386 | 0.2 | 81.9 | 7.55 |
| 101695 | 154500 | 19.18 | 7.58 | 395 | 0.2 | 80.9 | 7.47 |
| 101695 | 160000 | 19.20 | 7.56 | 398 | 0.2 | 80.6 | 7.44 |
| 101695 | 161500 | 19.22 | 7.56 | 398 | 0.2 | 80.2 | 7.40 |
| 101695 | 163000 | 19.16 | 7.55 | 404 | 0.2 | 79.5 | 7.34 |
| 101695 | 164500 | 19.17 | 7.53 | 402 | 0.2 | 78.2 | 7.22 |
| 101695 | 170000 | 19.17 | 7.52 | 400 | 0.2 | 78.0 | 7.20 |
| 101695 | 171500 | 19.18 | 7.51 | 402 | 0.2 | 77.5 | 7.15 |
| 101695 | 173000 | 19.17 | 7.53 | 406 | 0.2 | 78.3 | 7.23 |
| 101695 | 174500 | 19.21 | 7.51 | 403 | 0.2 | 79.1 | 7.29 |
| 101695 | 180000 | 19.34 | 7.53 | 404 | 0.2 | 79.1 | 7.28 |
| 101695 | 181500 | 19.22 | 7.50 | 403 | 0.2 | 75.4 | 6.95 |
| 101695 | 183000 | 19.19 | 7.48 | 408 | 0.2 | 74.3 | 6.85 |
| 101695 | 184500 | 19.20 | 7.47 | 414 | 0.2 | 74.9 | 6.91 |
| 101695 | 190000 | 19.19 | 7.54 | 418 | 0.2 | 77.9 | 7.19 |
| 101695 | 191500 | 19.25 | 7.57 | 425 | 0.2 | 78.3 | 7.22 |
| 101695 | 193000 | 19.60 | 7.77 | 403 | 0.2 | 93.6 | 8.57 |
| 101695 | 194500 | 19.71 | 7.89 | 393 | 0.2 | 97.8 | 8.93 |
| 101695 | 200000 | 19.73 | 7.95 | 385 | 0.2 | 105.6 | 9.64 |
| 101695 | 201500 | 19.75 | 8.19 | 380 | 0.2 | 114.6 | 10.46 |
| 101695 | 203000 | 19.80 | 8.22 | 376 | 0.2 | 114.5 | 10.44 |
| 101695 | 204500 | 19.77 | 8.24 | 376 | 0.2 | 114.4 | 10.44 |
| 101695 | 210000 | 19.75 | 8.23 | 376 | 0.2 | 115.2 | 10.52 |
| 101695 | 211500 | 19.68 | 8.14 | 375 | 0.2 | 109.7 | 10.03 |
| 101695 | 213000 | 19.68 | 8.12 | 375 | 0.2 | 108.7 | 9.93 |
| 101695 | 214500 | 19.65 | 8.13 | 373 | 0.2 | 110.6 | 10.12 |
| 101695 | 220000 | 19.65 | 8.08 | 373 | 0.2 | 108.0 | 9.88 |
| 101695 | 221500 | 19.59 | 8.08 | 362 | 0.2 | 108.6 | 9.94 |
| 101695 | 223000 | 19.56 | 8.05 | 362 | 0.2 | 107.9 | 9.89 |
| 101695 | 224500 | 19.54 | 8.02 | 362 | 0.2 | 106.1 | 9.73 |
| 101695 | 230000 | 19.54 | 7.97 | 363 | 0.2 | 105.0 | 9.62 |
| 101695 | 231500 | 19.51 | 7.97 | 362 | 0.2 | 105.3 | 9.66 |
| 101695 | 233000 | 19.50 | 7.97 | 357 | 0.2 | 104.6 | 9.60 |
| 101695 | 234500 | 19.49 | 7.93 | 361 | 0.2 | 103.1 | 9.46 |
| 101795 | 0 | 19.46 | 7.95 | 362 | 0.2 | 103.9 | 9.54 |
| 101795 | 1500 | 19.42 | 7.96 | 362 | 0.2 | 103.9 | 9.55 |
| 101795 | 3000 | 19.41 | 7.93 | 361 | 0.2 | 102.1 | 9.38 |
| 101795 | 4500 | 19.42 | 7.91 | 363 | 0.2 | 101.0 | 9.28 |
| 101795 | 10000 | 19.40 | 7.90 | 370 | 0.2 | 100.7 | 9.25 |
| 101795 | 11500 | 19.37 | 7.91 | 374 | 0.2 | 100.3 | 9.23 |
| 101795 | 13000 | 19.37 | 7.85 | 378 | 0.2 | 97.6 | 8.98 |
| 101795 | 14500 | 19.34 | 7.84 | 387 | 0.2 | 97.0 | 8.92 |
| 101795 | 20000 | 19.29 | 7.84 | 388 | 0.2 | 96.6 | 8.90 |
| 101795 | 21500 | 19.25 | 7.82 | 389 | 0.2 | 95.2 | 8.78 |
| 101795 | 23000 | 19.25 | 7.80 | 390 | 0.2 | 94.0 | 8.66 |
| 101795 | 24500 | 19.23 | 7.79 | 401 | 0.2 | 93.9 | 8.66 |
| 101795 | 30000 | 19.18 | 7.79 | 406 | 0.2 | 92.9 | 8.57 |
| 101795 | 31500 | 19.16 | 7.79 | 409 | 0.2 | 92.4 | 8.54 |
| 101795 | 33000 | 19.14 | 7.78 | 413 | 0.2 | 91.1 | 8.41 |
| 101795 | 34500 | 19.08 | 7.75 | 413 | 0.2 | 90.4 | 8.36 |
| 101795 | 40000 | 19.09 | 7.74 | 419 | 0.2 | 88.8 | 8.21 |
| 101795 | 41500 | 19.04 | 7.73 | 423 | 0.2 | 88.2 | 8.16 |
| 101795 | 43000 | 19.01 | 7.73 | 425 | 0.2 | 87.7 | 8.13 |
| 101795 | 44500 | 18.96 | 7.74 | 428 | 0.2 | 87.4 | 8.10 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 101795 | 50000 | 18.93 | 7.71 | 428 | 0.2 | 85.7 | 7.95 |
| 101795 | 51500 | 18.92 | 7.74 | 434 | 0.2 | 87.2 | 8.09 |
| 101795 | 53000 | 18.88 | 7.73 | 437 | 0.2 | 87.1 | 8.09 |
| 101795 | 54500 | 18.84 | 7.74 | 440 | 0.2 | 87.4 | 8.12 |
| 101795 | 60000 | 18.79 | 7.73 | 441 | 0.2 | 85.8 | 7.98 |
| 101795 | 61500 | 18.78 | 7.77 | 445 | 0.2 | 87.3 | 8.12 |
| 101795 | 63000 | 18.72 | 7.78 | 449 | 0.2 | 88.2 | 8.21 |
| 101795 | 64500 | 18.70 | 7.80 | 453 | 0.2 | 89.1 | 8.30 |
| 101795 | 70000 | 18.70 | 7.83 | 456 | 0.2 | 89.9 | 8.37 |
| 101795 | 71500 | 18.64 | 7.83 | 457 | 0.2 | 89.6 | 8.36 |
| 101795 | 73000 | 18.60 | 7.83 | 458 | 0.2 | 88.9 | 8.30 |
| 101795 | 74500 | 18.60 | 7.83 | 460 | 0.2 | 89.9 | 8.39 |
| 101795 | 80000 | 18.62 | 7.81 | 462 | 0.2 | 90.1 | 8.41 |
| 101795 | 81500 | 18.68 | 7.85 | 463 | 0.2 | 89.9 | 8.38 |
| 101795 | 83000 | 18.62 | 7.83 | 463 | 0.2 | 90.5 | 8.45 |
| 101795 | 84500 | 18.60 | 7.83 | 462 | 0.2 | 90.7 | 8.47 |
| 101795 | 90000 | 18.53 | 7.81 | 459 | 0.2 | 89.0 | 8.32 |
| 101795 | 91500 | 18.54 | 7.81 | 457 | 0.2 | 88.7 | 8.29 |
| 101795 | 93000 | 18.51 | 7.78 | 453 | 0.2 | 87.1 | 8.14 |
| 101795 | 94500 | 18.52 | 7.74 | 447 | 0.2 | 85.7 | 8.01 |
| 101795 | 100000 | 18.55 | 7.71 | 442 | 0.2 | 84.5 | 7.90 |
| 101795 | 101500 | 18.55 | 7.69 | 435 | 0.2 | 83.9 | 7.85 |
| 101795 | 103000 | 18.58 | 7.67 | 423 | 0.2 | 84.5 | 7.90 |
| 101795 | 104500 | 18.66 | 7.67 | 410 | 0.2 | 86.4 | 8.05 |
| 101795 | 110000 | 18.79 | 7.70 | 401 | 0.2 | 89.0 | 8.28 |
| 101795 | 111500 | 18.83 | 7.72 | 398 | 0.2 | 89.9 | 8.35 |
| 101795 | 113000 | 18.82 | 7.70 | 399 | 0.2 | 88.4 | 8.22 |
| 101795 | 114500 | 18.84 | 7.69 | 398 | 0.2 | 88.4 | 8.21 |
| 101795 | 120000 | 18.87 | 7.66 | 395 | 0.2 | 87.8 | 8.16 |
| 101795 | 121500 | 18.89 | 7.65 | 393 | 0.2 | 87.0 | 8.08 |
| 101795 | 123000 | 18.89 | 7.63 | 391 | 0.2 | 86.4 | 8.02 |
| 101795 | 124500 | 18.92 | 7.64 | 383 | 0.2 | 88.0 | 8.17 |
| 101795 | 130000 | 18.94 | 7.62 | 382 | 0.2 | 87.8 | 8.14 |
| 101795 | 131500 | 18.95 | 7.64 | 379 | 0.2 | 88.6 | 8.21 |
| 101795 | 133000 | 18.99 | 7.63 | 377 | 0.2 | 89.7 | 8.31 |
| 101795 | 134500 | 18.99 | 7.63 | 378 | 0.2 | 87.7 | 8.13 |
| 101795 | 140000 | 19.03 | 7.62 | 374 | 0.2 | 88.1 | 8.16 |
| 101795 | 141500 | 18.97 | 7.60 | 371 | 0.2 | 86.8 | 8.04 |
| 101795 | 143000 | 18.99 | 7.58 | 379 | 0.2 | 84.5 | 7.83 |
| 101795 | 144500 | 18.97 | 7.58 | 372 | 0.2 | 87.3 | 8.09 |
| 101795 | 150000 | 18.99 | 7.60 | 379 | 0.2 | 86.7 | 8.03 |
| 101795 | 151500 | 19.02 | 7.60 | 382 | 0.2 | 85.5 | 7.92 |
| 101795 | 153000 | 19.06 | 7.63 | 384 | 0.2 | 88.6 | 8.20 |
| 101795 | 154500 | 19.09 | 7.71 | 374 | 0.2 | 93.0 | 8.60 |
| 101795 | 160000 | 19.22 | 7.73 | 379 | 0.2 | 91.9 | 8.48 |
| 101795 | 161500 | 19.13 | 7.66 | 385 | 0.2 | 88.2 | 8.15 |
| 101795 | 163000 | 19.28 | 7.73 | 389 | 0.2 | 93.3 | 8.59 |
| 101795 | 164500 | 19.42 | 7.77 | 389 | 0.2 | 95.2 | 8.74 |
| 101795 | 170000 | 19.13 | 7.61 | 393 | 0.2 | 85.0 | 7.85 |
| 101795 | 171500 | 19.06 | 7.56 | 396 | 0.2 | 80.3 | 7.43 |
| 101795 | 173000 | 19.03 | 7.56 | 397 | 0.2 | 79.2 | 7.33 |

Figure 3. Dissolved oxygen measurements in Smith Canal from 28 to 29 October 1995.

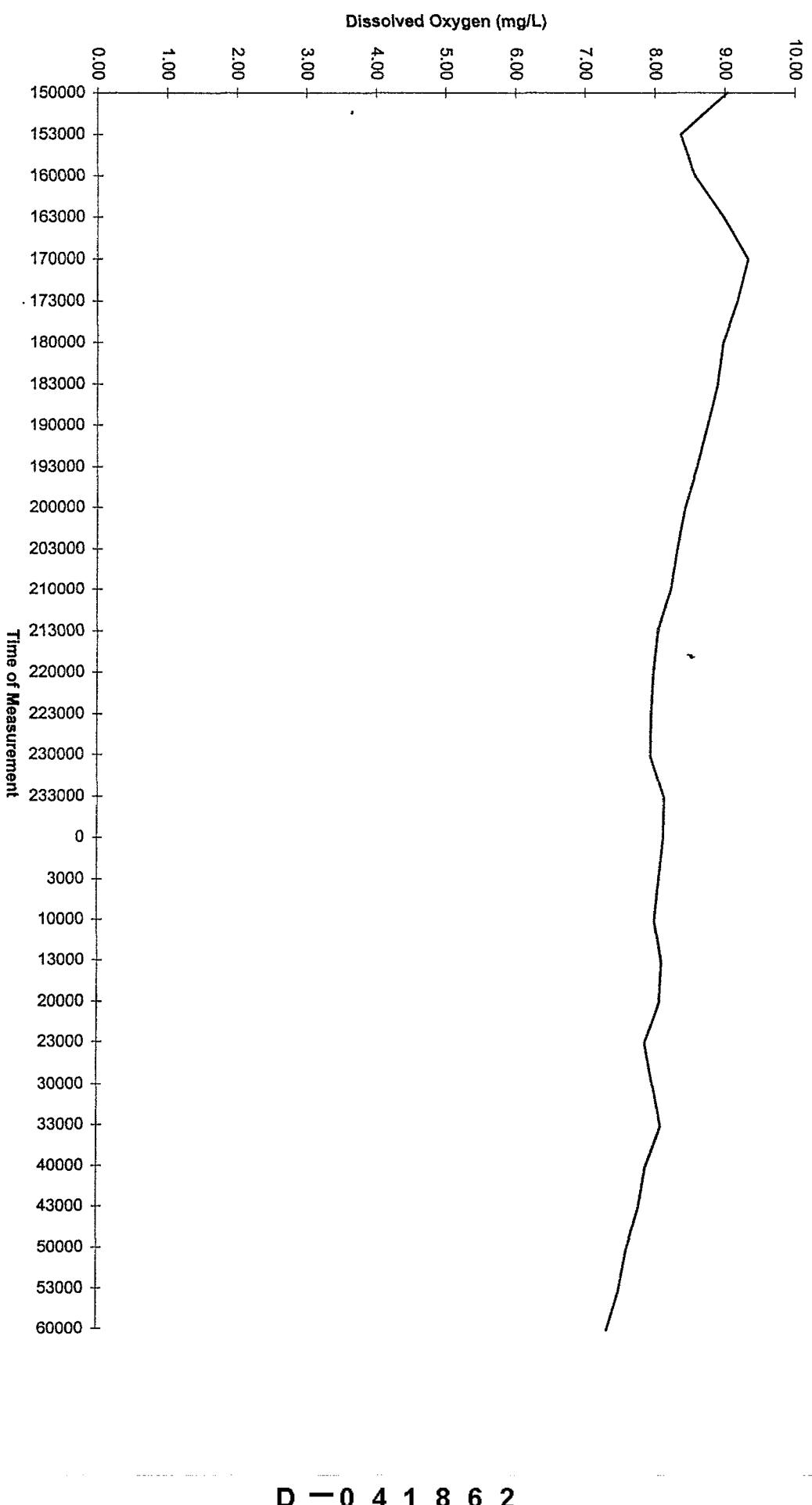


Table 3. Summary of water quality parameters measured in Smith Canal from 28 to 29 October 1995.

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 102895 | 150000 | 18.19 | 8.13 | 356 | 0.2 | 95.9 | 9.03 |
| 102895 | 153000 | 18.00 | 7.97 | 357 | 0.2 | 88.5 | 8.37 |
| 102895 | 160000 | 18.03 | 7.99 | 365 | 0.2 | 90.7 | 8.57 |
| 102895 | 163000 | 18.36 | 8.04 | 353 | 0.2 | 95.6 | 8.98 |
| 102895 | 170000 | 18.41 | 8.12 | 349 | 0.2 | 99.4 | 9.33 |
| 102895 | 173000 | 18.31 | 8.05 | 338 | 0.2 | 97.7 | 9.18 |
| 102895 | 180000 | 18.31 | 7.99 | 339 | 0.2 | 95.5 | 8.97 |
| 102895 | 183000 | 18.28 | 7.95 | 333 | 0.2 | 94.6 | 8.89 |
| 102895 | 190000 | 18.27 | 7.86 | 330 | 0.2 | 93.0 | 8.75 |
| 102895 | 193000 | 18.20 | 7.77 | 324 | 0.2 | 91.3 | 8.60 |
| 102895 | 200000 | 18.17 | 7.71 | 321 | 0.2 | 89.5 | 8.43 |
| 102895 | 203000 | 18.14 | 7.67 | 320 | 0.2 | 88.3 | 8.32 |
| 102895 | 210000 | 18.08 | 7.63 | 318 | 0.2 | 87.1 | 8.23 |
| 102895 | 213000 | 18.05 | 7.59 | 318 | 0.2 | 85.1 | 8.04 |
| 102895 | 220000 | 18.03 | 7.57 | 320 | 0.2 | 84.4 | 7.98 |
| 102895 | 223000 | 18.03 | 7.58 | 321 | 0.2 | 84.1 | 7.95 |
| 102895 | 230000 | 18.04 | 7.62 | 325 | 0.2 | 84.0 | 7.94 |
| 102895 | 233000 | 18.06 | 7.67 | 330 | 0.2 | 86.1 | 8.13 |
| 102995 | 0 | 18.06 | 7.70 | 334 | 0.2 | 86.0 | 8.12 |
| 102995 | 3000 | 18.02 | 7.71 | 337 | 0.2 | 85.3 | 8.06 |
| 102995 | 10000 | 18.02 | 7.68 | 341 | 0.2 | 84.6 | 8.00 |
| 102995 | 13000 | 17.98 | 7.76 | 345 | 0.2 | 85.6 | 8.10 |
| 102995 | 20000 | 17.95 | 7.77 | 350 | 0.2 | 85.3 | 8.07 |
| 102995 | 23000 | 17.90 | 7.73 | 352 | 0.2 | 83.1 | 7.87 |
| 102995 | 30000 | 17.86 | 7.76 | 357 | 0.2 | 84.2 | 7.98 |
| 102995 | 33000 | 17.82 | 7.81 | 364 | 0.2 | 85.2 | 8.09 |
| 102995 | 40000 | 17.77 | 7.77 | 365 | 0.2 | 83.0 | 7.88 |
| 102995 | 43000 | 17.70 | 7.74 | 368 | 0.2 | 81.8 | 7.78 |
| 102995 | 50000 | 17.63 | 7.70 | 369 | 0.2 | 79.8 | 7.61 |
| 102995 | 53000 | 17.56 | 7.67 | 371 | 0.2 | 78.6 | 7.50 |
| 102995 | 60000 | 17.48 | 7.63 | 370 | 0.2 | 76.7 | 7.33 |

Figure 4. Dissolved oxygen measurements in Smith Canal from 26 to 29 November 1995.

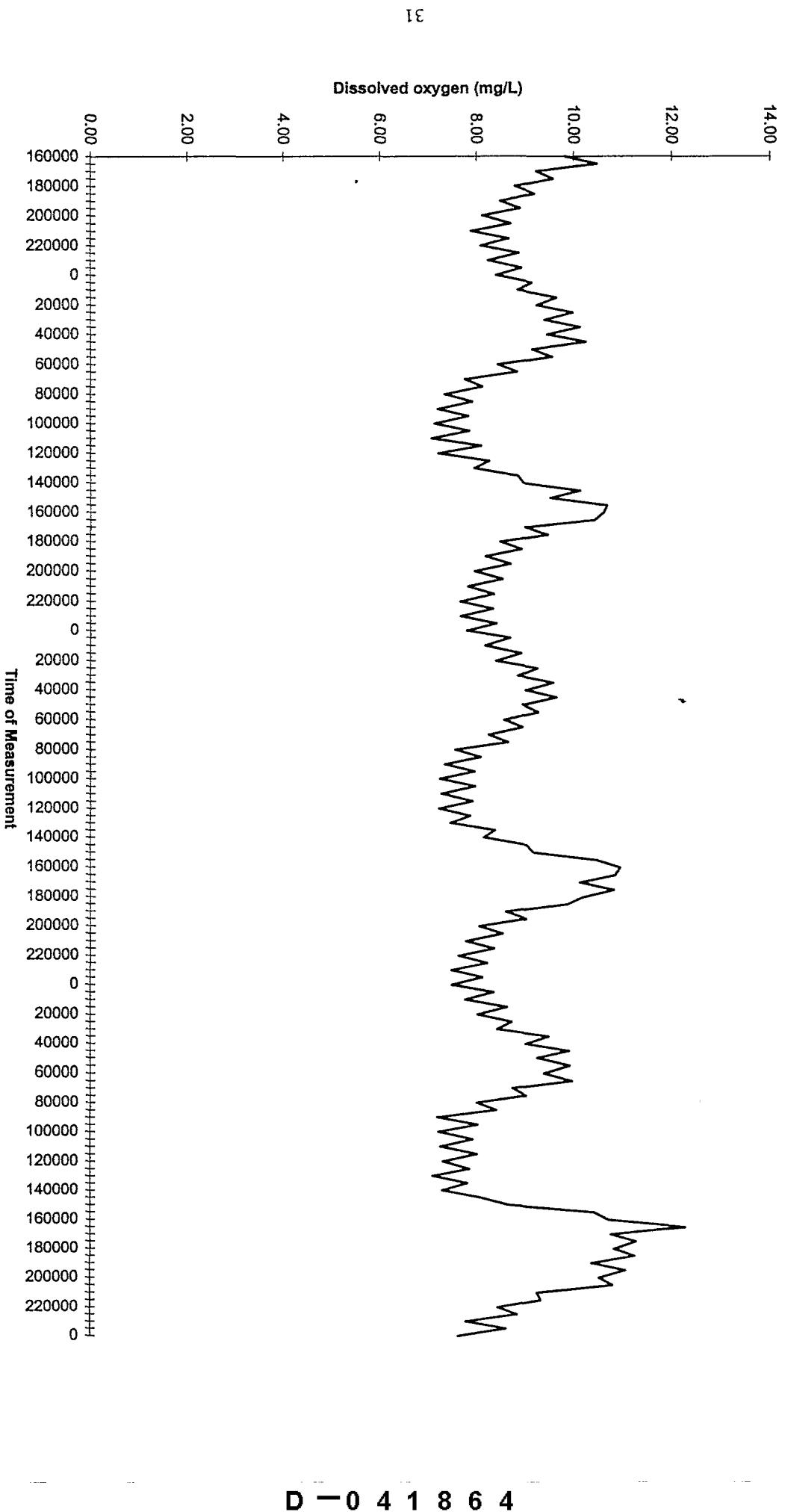


Table 4. Summary of water quality parameters measured in Smith Canal from 26 to 29 November 1995.

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 112695 | 160000 | 14.49 | 7.86 | 481 | 0.2 | 96.5 | 9.82 |
| 112695 | 163000 | 14.59 | 7.82 | 492 | 0.2 | 103.0 | 10.47 |
| 112695 | 170000 | 14.64 | 7.71 | 504 | 0.3 | 91.0 | 9.23 |
| 112695 | 173000 | 14.67 | 7.66 | 513 | 0.3 | 94.4 | 9.57 |
| 112695 | 180000 | 14.69 | 7.64 | 519 | 0.3 | 86.7 | 8.79 |
| 112695 | 183000 | 14.69 | 7.61 | 526 | 0.3 | 90.6 | 9.18 |
| 112695 | 180000 | 14.65 | 7.59 | 526 | 0.3 | 83.7 | 8.49 |
| 112695 | 193000 | 14.64 | 7.57 | 531 | 0.3 | 87.6 | 8.89 |
| 112695 | 200000 | 14.57 | 7.55 | 529 | 0.3 | 79.9 | 8.12 |
| 112695 | 203000 | 14.57 | 7.55 | 531 | 0.3 | 85.6 | 8.69 |
| 112695 | 210000 | 14.55 | 7.53 | 531 | 0.3 | 77.5 | 7.88 |
| 112695 | 213000 | 14.49 | 7.55 | 526 | 0.3 | 85.0 | 8.65 |
| 112695 | 220000 | 14.37 | 7.56 | 515 | 0.3 | 79.3 | 8.09 |
| 112695 | 223000 | 14.24 | 7.59 | 505 | 0.3 | 86.6 | 8.87 |
| 112695 | 230000 | 14.17 | 7.59 | 501 | 0.3 | 80.4 | 8.24 |
| 112695 | 233000 | 14.09 | 7.60 | 495 | 0.3 | 86.9 | 8.92 |
| 112795 | 0 | 14.01 | 7.62 | 485 | 0.2 | 81.8 | 8.41 |
| 112795 | 3000 | 13.93 | 7.63 | 482 | 0.2 | 88.6 | 9.13 |
| 112795 | 10000 | 13.83 | 7.68 | 477 | 0.2 | 85.7 | 8.85 |
| 112795 | 13000 | 13.73 | 7.71 | 473 | 0.2 | 93.2 | 9.64 |
| 112795 | 20000 | 13.63 | 7.75 | 467 | 0.2 | 89.0 | 9.24 |
| 112795 | 23000 | 13.55 | 7.77 | 465 | 0.2 | 95.9 | 9.97 |
| 112795 | 30000 | 13.46 | 7.77 | 462 | 0.2 | 90.3 | 9.40 |
| 112795 | 33000 | 13.37 | 7.78 | 460 | 0.2 | 97.0 | 10.12 |
| 112795 | 40000 | 13.28 | 7.78 | 459 | 0.2 | 90.4 | 9.45 |
| 112795 | 43000 | 13.20 | 7.80 | 457 | 0.2 | 97.8 | 10.24 |
| 112795 | 50000 | 13.14 | 7.74 | 460 | 0.2 | 87.1 | 9.14 |
| 112795 | 53000 | 13.12 | 7.69 | 463 | 0.2 | 91.0 | 9.54 |
| 112795 | 60000 | 13.12 | 7.62 | 470 | 0.2 | 80.3 | 8.43 |
| 112795 | 63000 | 13.15 | 7.59 | 475 | 0.2 | 84.1 | 8.82 |
| 112795 | 70000 | 13.23 | 7.55 | 487 | 0.2 | 74.0 | 7.75 |
| 112795 | 73000 | 13.30 | 7.51 | 498 | 0.3 | 77.6 | 8.11 |
| 112795 | 80000 | 13.28 | 7.49 | 503 | 0.3 | 70.3 | 7.34 |
| 112795 | 83000 | 13.28 | 7.49 | 507 | 0.3 | 75.7 | 7.91 |
| 112795 | 90000 | 13.28 | 7.47 | 511 | 0.3 | 68.9 | 7.20 |
| 112795 | 93000 | 13.33 | 7.47 | 517 | 0.3 | 74.9 | 7.82 |
| 112795 | 100000 | 13.43 | 7.46 | 522 | 0.3 | 68.5 | 7.13 |
| 112795 | 103000 | 13.53 | 7.47 | 528 | 0.3 | 75.5 | 7.84 |
| 112795 | 110000 | 13.50 | 7.47 | 528 | 0.3 | 68.0 | 7.07 |
| 112795 | 113000 | 13.48 | 7.49 | 517 | 0.3 | 77.7 | 8.09 |
| 112795 | 120000 | 13.41 | 7.48 | 514 | 0.3 | 69.2 | 7.21 |
| 112795 | 123000 | 13.38 | 7.52 | 507 | 0.3 | 79.1 | 8.25 |
| 112795 | 130000 | 13.35 | 7.56 | 500 | 0.3 | 76.2 | 7.95 |
| 112795 | 133000 | 13.30 | 7.59 | 495 | 0.3 | 84.6 | 8.84 |
| 112795 | 140000 | 13.43 | 7.71 | 486 | 0.2 | 86.0 | 8.96 |
| 112795 | 143000 | 13.41 | 7.79 | 481 | 0.2 | 97.1 | 10.12 |
| 112795 | 150000 | 13.32 | 7.81 | 479 | 0.2 | 91.1 | 9.51 |
| 112795 | 153000 | 13.28 | 7.89 | 475 | 0.2 | 102.1 | 10.67 |
| 112795 | 160000 | 13.43 | 8.00 | 471 | 0.2 | 101.8 | 10.60 |
| 112795 | 163000 | 13.48 | 7.85 | 479 | 0.2 | 100.0 | 10.41 |
| 112795 | 170000 | 13.46 | 7.71 | 486 | 0.2 | 86.4 | 8.99 |
| 112795 | 173000 | 13.46 | 7.68 | 492 | 0.2 | 90.9 | 9.46 |
| 112795 | 180000 | 13.60 | 7.63 | 503 | 0.3 | 81.8 | 8.49 |
| 112795 | 183000 | 13.71 | 7.60 | 514 | 0.3 | 86.2 | 8.92 |
| 112795 | 190000 | 13.71 | 7.58 | 518 | 0.3 | 79.0 | 8.18 |
| 112795 | 193000 | 13.73 | 7.57 | 524 | 0.3 | 84.0 | 8.69 |
| 112795 | 200000 | 13.74 | 7.55 | 528 | 0.3 | 77.0 | 7.96 |
| 112795 | 203000 | 13.74 | 7.54 | 531 | 0.3 | 82.5 | 8.53 |
| 112795 | 210000 | 13.76 | 7.52 | 533 | 0.3 | 75.6 | 7.82 |
| 112795 | 213000 | 13.73 | 7.52 | 533 | 0.3 | 80.7 | 8.35 |
| 112795 | 220000 | 13.69 | 7.52 | 532 | 0.3 | 74.0 | 7.66 |
| 112795 | 223000 | 13.61 | 7.53 | 525 | 0.3 | 80.3 | 8.33 |
| 112795 | 230000 | 13.48 | 7.54 | 513 | 0.3 | 73.7 | 7.67 |
| 112795 | 233000 | 13.40 | 7.55 | 508 | 0.3 | 80.6 | 8.40 |
| 112895 | 0 | 13.32 | 7.56 | 503 | 0.3 | 74.7 | 7.80 |
| 112895 | 3000 | 13.22 | 7.58 | 494 | 0.3 | 82.9 | 8.68 |
| 112895 | 10000 | 13.15 | 7.60 | 489 | 0.2 | 77.9 | 8.17 |
| 112895 | 13000 | 13.10 | 7.62 | 487 | 0.2 | 84.9 | 8.91 |
| 112895 | 20000 | 13.00 | 7.63 | 483 | 0.2 | 79.9 | 8.40 |
| 112895 | 23000 | 12.92 | 7.65 | 480 | 0.2 | 87.7 | 9.24 |
| 112895 | 30000 | 12.84 | 7.70 | 479 | 0.2 | 83.8 | 8.85 |
| 112895 | 33000 | 12.74 | 7.70 | 472 | 0.2 | 90.5 | 9.58 |
| 112895 | 40000 | 12.67 | 7.70 | 469 | 0.2 | 85.1 | 9.01 |
| 112895 | 43000 | 12.58 | 7.70 | 468 | 0.2 | 90.7 | 9.64 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 112895 | 50000 | 12.48 | 7.70 | 466 | 0.2 | 84.1 | 8.95 |
| 112895 | 53000 | 12.44 | 7.66 | 469 | 0.2 | 86.9 | 9.26 |
| 112895 | 60000 | 12.41 | 7.66 | 469 | 0.2 | 80.4 | 8.57 |
| 112895 | 63000 | 12.43 | 7.62 | 475 | 0.2 | 83.9 | 8.94 |
| 112895 | 70000 | 12.49 | 7.61 | 477 | 0.2 | 77.5 | 8.25 |
| 112895 | 73000 | 12.53 | 7.58 | 483 | 0.2 | 81.2 | 8.64 |
| 112895 | 80000 | 12.61 | 7.52 | 493 | 0.2 | 71.3 | 7.56 |
| 112895 | 83000 | 12.64 | 7.51 | 501 | 0.3 | 76.2 | 8.08 |
| 112895 | 90000 | 12.66 | 7.50 | 504 | 0.3 | 69.2 | 7.34 |
| 112895 | 93000 | 12.71 | 7.49 | 509 | 0.3 | 75.1 | 7.95 |
| 112895 | 100000 | 12.81 | 7.49 | 517 | 0.3 | 68.5 | 7.24 |
| 112895 | 103000 | 12.89 | 7.49 | 523 | 0.3 | 75.5 | 7.96 |
| 112895 | 110000 | 12.99 | 7.48 | 529 | 0.3 | 69.1 | 7.27 |
| 112895 | 113000 | 12.99 | 7.48 | 530 | 0.3 | 75.2 | 7.91 |
| 112895 | 120000 | 13.00 | 7.48 | 528 | 0.3 | 68.7 | 7.22 |
| 112895 | 123000 | 12.99 | 7.49 | 526 | 0.3 | 74.7 | 7.86 |
| 112895 | 130000 | 12.95 | 7.52 | 521 | 0.3 | 70.9 | 7.46 |
| 112895 | 133000 | 12.92 | 7.54 | 515 | 0.3 | 79.8 | 8.38 |
| 112895 | 140000 | 12.94 | 7.60 | 507 | 0.3 | 77.4 | 8.15 |
| 112895 | 143000 | 12.94 | 7.63 | 503 | 0.3 | 85.6 | 9.02 |
| 112895 | 150000 | 12.99 | 7.75 | 497 | 0.3 | 87.2 | 9.17 |
| 112895 | 153000 | 13.05 | 7.92 | 492 | 0.2 | 99.7 | 10.47 |
| 112895 | 160000 | 13.05 | 8.15 | 484 | 0.2 | 104.2 | 10.94 |
| 112895 | 163000 | 13.02 | 7.96 | 488 | 0.2 | 103.1 | 10.84 |
| 112895 | 170000 | 12.97 | 7.90 | 484 | 0.2 | 96.3 | 10.13 |
| 112895 | 173000 | 12.97 | 7.93 | 484 | 0.2 | 102.7 | 10.81 |
| 112895 | 180000 | 13.00 | 7.94 | 487 | 0.2 | 96.8 | 10.18 |
| 112895 | 183000 | 13.02 | 7.75 | 494 | 0.2 | 93.6 | 9.85 |
| 112895 | 190000 | 13.02 | 7.66 | 501 | 0.3 | 81.8 | 8.60 |
| 112895 | 193000 | 13.04 | 7.61 | 505 | 0.3 | 85.7 | 9.01 |
| 112895 | 200000 | 13.10 | 7.58 | 514 | 0.3 | 76.8 | 8.06 |
| 112895 | 203000 | 13.17 | 7.56 | 521 | 0.3 | 81.4 | 8.53 |
| 112895 | 210000 | 13.18 | 7.54 | 526 | 0.3 | 74.3 | 7.78 |
| 112895 | 213000 | 13.18 | 7.53 | 528 | 0.3 | 79.8 | 8.36 |
| 112895 | 220000 | 13.18 | 7.53 | 531 | 0.3 | 72.8 | 7.63 |
| 112895 | 223000 | 13.18 | 7.52 | 532 | 0.3 | 78.3 | 8.21 |
| 112895 | 230000 | 13.15 | 7.51 | 531 | 0.3 | 71.5 | 7.49 |
| 112895 | 233000 | 13.09 | 7.51 | 528 | 0.3 | 77.4 | 8.12 |
| 112995 | 0 | 12.99 | 7.51 | 519 | 0.3 | 71.2 | 7.49 |
| 112995 | 3000 | 12.87 | 7.55 | 510 | 0.3 | 79.2 | 8.35 |
| 112995 | 10000 | 12.79 | 7.55 | 506 | 0.3 | 73.5 | 7.77 |
| 112995 | 13000 | 12.72 | 7.58 | 500 | 0.3 | 81.5 | 8.62 |
| 112995 | 20000 | 12.67 | 7.59 | 497 | 0.3 | 75.8 | 8.03 |
| 112995 | 23000 | 12.63 | 7.60 | 496 | 0.3 | 82.2 | 8.72 |
| 112995 | 30000 | 12.54 | 7.62 | 489 | 0.2 | 79.3 | 8.43 |
| 112995 | 33000 | 12.46 | 7.69 | 484 | 0.2 | 89.0 | 9.48 |
| 112995 | 40000 | 12.41 | 7.72 | 480 | 0.2 | 84.6 | 9.01 |
| 112995 | 43000 | 12.31 | 7.75 | 477 | 0.2 | 92.7 | 9.90 |
| 112995 | 50000 | 12.25 | 7.76 | 475 | 0.2 | 86.5 | 9.25 |
| 112995 | 53000 | 12.18 | 7.77 | 474 | 0.2 | 92.5 | 9.91 |
| 112995 | 60000 | 12.10 | 7.75 | 472 | 0.2 | 87.5 | 9.39 |
| 112995 | 63000 | 12.08 | 7.75 | 473 | 0.2 | 92.7 | 9.96 |
| 112995 | 70000 | 12.05 | 7.68 | 478 | 0.2 | 81.3 | 8.74 |
| 112995 | 73000 | 12.10 | 7.62 | 486 | 0.2 | 84.0 | 9.01 |
| 112995 | 80000 | 12.15 | 7.59 | 491 | 0.2 | 74.7 | 8.01 |
| 112995 | 83000 | 12.22 | 7.55 | 497 | 0.3 | 78.4 | 8.40 |
| 112995 | 90000 | 12.38 | 7.50 | 511 | 0.3 | 67.5 | 7.20 |
| 112995 | 93000 | 12.33 | 7.50 | 510 | 0.3 | 75.2 | 8.03 |
| 112995 | 100000 | 12.43 | 7.48 | 518 | 0.3 | 67.8 | 7.22 |
| 112995 | 103000 | 12.51 | 7.49 | 524 | 0.3 | 74.5 | 7.92 |
| 112995 | 110000 | 12.63 | 7.50 | 530 | 0.3 | 68.5 | 7.26 |
| 112995 | 113000 | 12.76 | 7.50 | 536 | 0.3 | 75.8 | 8.01 |
| 112995 | 120000 | 12.79 | 7.50 | 538 | 0.3 | 69.2 | 7.31 |
| 112995 | 123000 | 12.77 | 7.49 | 538 | 0.3 | 74.2 | 7.85 |
| 112995 | 130000 | 12.79 | 7.48 | 539 | 0.3 | 67.2 | 7.10 |
| 112995 | 133000 | 12.76 | 7.49 | 535 | 0.3 | 73.8 | 7.81 |
| 112995 | 140000 | 12.74 | 7.50 | 528 | 0.3 | 68.9 | 7.29 |
| 112995 | 143000 | 12.71 | 7.52 | 522 | 0.3 | 76.2 | 8.07 |
| 112995 | 150000 | 12.90 | 7.66 | 512 | 0.3 | 82.0 | 8.65 |
| 112995 | 153000 | 12.97 | 7.84 | 505 | 0.3 | 98.9 | 10.41 |
| 112995 | 160000 | 13.04 | 8.03 | 497 | 0.3 | 101.9 | 10.71 |
| 112995 | 163000 | 13.09 | 8.25 | 491 | 0.2 | 116.8 | 12.26 |
| 112995 | 170000 | 13.04 | 8.06 | 493 | 0.2 | 102.4 | 10.76 |
| 112995 | 173000 | 12.99 | 7.98 | 490 | 0.2 | 107.0 | 11.26 |
| 112995 | 180000 | 12.94 | 8.05 | 485 | 0.2 | 102.7 | 10.82 |
| 112995 | 183000 | 12.86 | 8.02 | 484 | 0.2 | 106.4 | 11.23 |
| 112995 | 190000 | 12.87 | 7.99 | 484 | 0.2 | 98.3 | 10.37 |
| 112995 | 193000 | 12.87 | 7.98 | 488 | 0.2 | 104.7 | 11.05 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 112995 | 200000 | 12.89 | 8.01 | 489 | 0.2 | 99.8 | 10.52 |
| 112995 | 203000 | 12.87 | 7.91 | 494 | 0.2 | 102.3 | 10.79 |
| 112995 | 210000 | 12.86 | 7.76 | 504 | 0.3 | 87.6 | 9.25 |
| 112995 | 213000 | 12.84 | 7.66 | 512 | 0.3 | 88.3 | 9.32 |
| 112995 | 220000 | 12.84 | 7.62 | 515 | 0.3 | 80.0 | 8.44 |
| 112995 | 223000 | 12.82 | 7.60 | 521 | 0.3 | 83.6 | 8.83 |
| 112995 | 230000 | 12.87 | 7.54 | 529 | 0.3 | 73.7 | 7.78 |
| 112995 | 233000 | 12.79 | 7.55 | 521 | 0.3 | 81.4 | 8.60 |
| 113095 | 0 | 12.86 | 7.51 | 532 | 0.3 | 72.4 | 7.63 |

Figure 5. Dissolved oxygen measurements in Smith Canal from 3 to 6 December 1995.

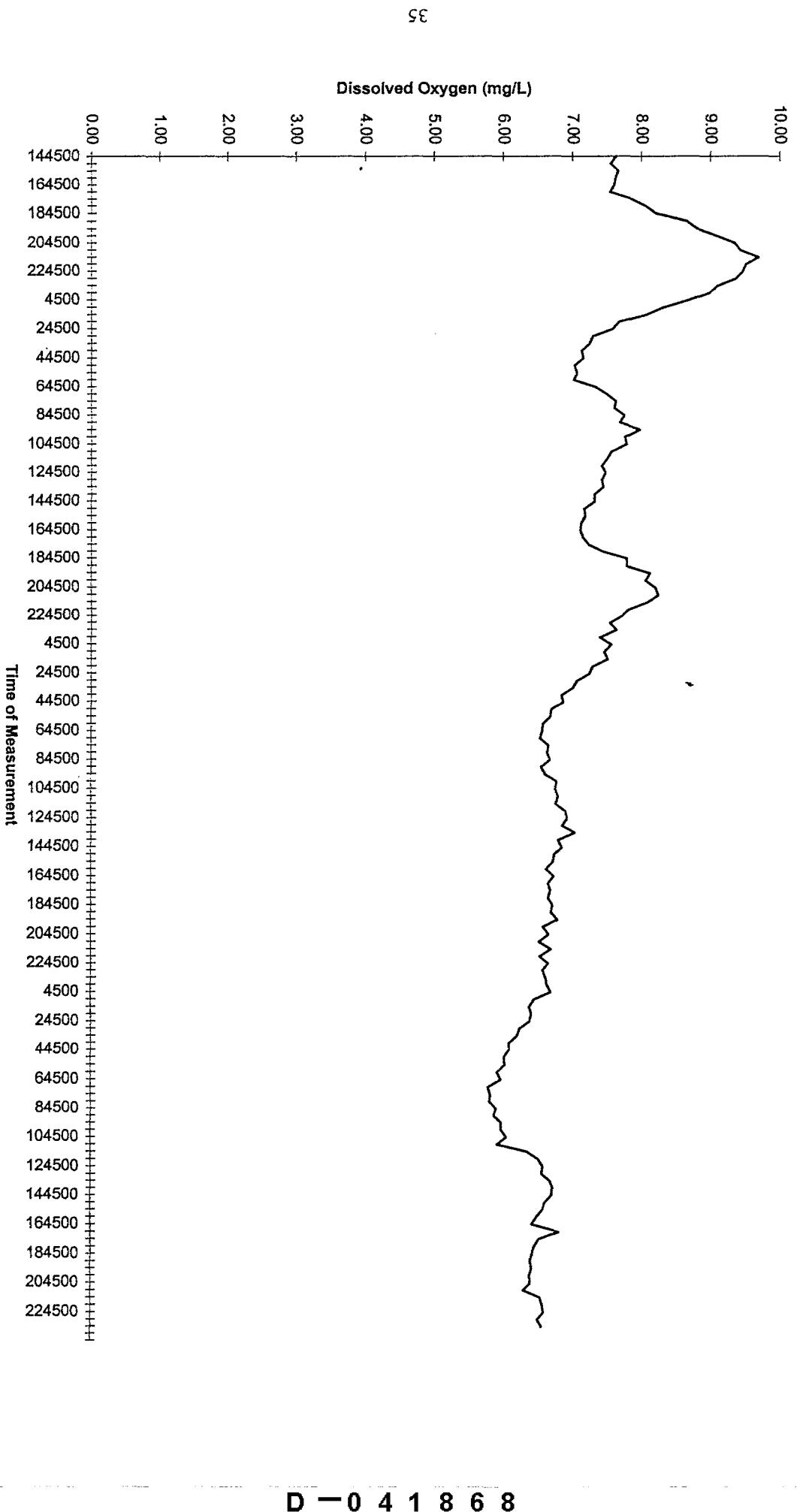


Table 5. Summary of water quality parameters measured in Smith Canal from 3 to 6 December 1995.

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 120395 | 144500 | 12.71 | 7.22 | 563 | 0.3 | 72.1 | 7.63 |
| 120395 | 151500 | 12.67 | 7.24 | 559 | 0.3 | 71.3 | 7.55 |
| 120395 | 154500 | 12.72 | 7.24 | 564 | 0.3 | 72.4 | 7.66 |
| 120395 | 161500 | 12.79 | 7.24 | 570 | 0.3 | 72.1 | 7.62 |
| 120395 | 164500 | 12.71 | 7.24 | 559 | 0.3 | 71.8 | 7.60 |
| 120395 | 171500 | 12.66 | 7.25 | 552 | 0.3 | 71.1 | 7.54 |
| 120395 | 174500 | 12.64 | 7.28 | 544 | 0.3 | 74.0 | 7.85 |
| 120395 | 181500 | 12.64 | 7.31 | 540 | 0.3 | 75.9 | 8.05 |
| 120395 | 184500 | 12.64 | 7.33 | 536 | 0.3 | 77.4 | 8.20 |
| 120395 | 191500 | 12.64 | 7.37 | 530 | 0.3 | 81.6 | 8.65 |
| 120395 | 194500 | 12.66 | 7.39 | 529 | 0.3 | 83.2 | 8.81 |
| 120395 | 201500 | 12.66 | 7.44 | 522 | 0.3 | 85.7 | 9.09 |
| 120395 | 204500 | 12.61 | 7.46 | 517 | 0.3 | 88.1 | 9.35 |
| 120395 | 211500 | 12.61 | 7.49 | 514 | 0.3 | 88.9 | 9.43 |
| 120395 | 214500 | 12.58 | 7.52 | 510 | 0.3 | 91.2 | 9.69 |
| 120395 | 221500 | 12.54 | 7.50 | 508 | 0.3 | 89.5 | 9.51 |
| 120395 | 224500 | 12.49 | 7.49 | 505 | 0.3 | 88.9 | 9.46 |
| 120395 | 231500 | 12.46 | 7.47 | 504 | 0.3 | 87.9 | 9.36 |
| 120395 | 234500 | 12.53 | 7.43 | 509 | 0.3 | 85.5 | 9.09 |
| 120495 | 1500 | 12.54 | 7.42 | 509 | 0.3 | 84.5 | 8.98 |
| 120495 | 4500 | 12.61 | 7.37 | 517 | 0.3 | 81.8 | 8.67 |
| 120495 | 11500 | 12.64 | 7.34 | 524 | 0.3 | 78.4 | 8.31 |
| 120495 | 14500 | 12.67 | 7.30 | 529 | 0.3 | 76.1 | 8.06 |
| 120495 | 21500 | 12.71 | 7.27 | 537 | 0.3 | 72.4 | 7.67 |
| 120495 | 24500 | 12.71 | 7.25 | 540 | 0.3 | 71.6 | 7.58 |
| 120495 | 31500 | 12.74 | 7.23 | 547 | 0.3 | 69.0 | 7.29 |
| 120495 | 34500 | 12.74 | 7.22 | 547 | 0.3 | 68.4 | 7.24 |
| 120495 | 41500 | 12.76 | 7.22 | 549 | 0.3 | 67.4 | 7.13 |
| 120495 | 44500 | 12.74 | 7.21 | 554 | 0.3 | 67.6 | 7.15 |
| 120495 | 51500 | 12.77 | 7.21 | 552 | 0.3 | 66.6 | 7.03 |
| 120495 | 54500 | 12.76 | 7.20 | 550 | 0.3 | 66.8 | 7.06 |
| 120495 | 61500 | 12.74 | 7.20 | 546 | 0.3 | 66.4 | 7.02 |
| 120495 | 64500 | 12.67 | 7.23 | 534 | 0.3 | 69.2 | 7.33 |
| 120495 | 71500 | 12.64 | 7.26 | 526 | 0.3 | 70.6 | 7.49 |
| 120495 | 74500 | 12.64 | 7.26 | 523 | 0.3 | 71.9 | 7.62 |
| 120495 | 81500 | 12.63 | 7.27 | 520 | 0.3 | 71.7 | 7.60 |
| 120495 | 84500 | 12.61 | 7.28 | 517 | 0.3 | 72.9 | 7.74 |
| 120495 | 91500 | 12.61 | 7.28 | 516 | 0.3 | 72.4 | 7.68 |
| 120495 | 94500 | 12.59 | 7.30 | 512 | 0.3 | 75.1 | 7.97 |
| 120495 | 101500 | 12.69 | 7.28 | 516 | 0.3 | 73.3 | 7.76 |
| 120495 | 104500 | 12.79 | 7.28 | 522 | 0.3 | 73.6 | 7.78 |
| 120495 | 111500 | 12.90 | 7.27 | 530 | 0.3 | 71.7 | 7.56 |
| 120495 | 114500 | 12.99 | 7.25 | 540 | 0.3 | 71.3 | 7.50 |
| 120495 | 121500 | 13.04 | 7.25 | 546 | 0.3 | 70.6 | 7.42 |
| 120495 | 124500 | 13.10 | 7.24 | 554 | 0.3 | 71.2 | 7.47 |
| 120495 | 131500 | 13.10 | 7.25 | 548 | 0.3 | 70.7 | 7.42 |
| 120495 | 134500 | 13.20 | 7.24 | 558 | 0.3 | 71.0 | 7.44 |
| 120495 | 141500 | 13.22 | 7.23 | 563 | 0.3 | 69.9 | 7.31 |
| 120495 | 144500 | 13.27 | 7.23 | 569 | 0.3 | 70.1 | 7.32 |
| 120495 | 151500 | 13.27 | 7.21 | 572 | 0.3 | 68.6 | 7.17 |
| 120495 | 154500 | 13.30 | 7.21 | 574 | 0.3 | 68.7 | 7.18 |
| 120495 | 161500 | 13.35 | 7.20 | 579 | 0.3 | 68.2 | 7.12 |
| 120495 | 164500 | 13.30 | 7.21 | 569 | 0.3 | 68.1 | 7.11 |
| 120495 | 171500 | 13.35 | 7.22 | 572 | 0.3 | 68.6 | 7.15 |
| 120495 | 174500 | 13.30 | 7.22 | 563 | 0.3 | 69.2 | 7.23 |
| 120495 | 181500 | 13.32 | 7.26 | 554 | 0.3 | 71.3 | 7.44 |
| 120495 | 184500 | 13.33 | 7.28 | 547 | 0.3 | 74.5 | 7.78 |
| 120495 | 191500 | 13.32 | 7.29 | 544 | 0.3 | 74.6 | 7.78 |
| 120495 | 194500 | 13.33 | 7.32 | 538 | 0.3 | 77.8 | 8.12 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH | SpCond units | Salin ppt | DO | %Sat | DO mg/l |
|----------------|----------------|--------------|------|-----------------|--------------|------|------|------------|
| 120495 | 201500 | 13.33 | 7.32 | 535 | 0.3 | 77.2 | 8.06 | |
| 120495 | 204500 | 13.33 | 7.32 | 531 | 0.3 | 78.6 | 8.20 | |
| 120495 | 211500 | 13.23 | 7.33 | 523 | 0.3 | 78.7 | 8.24 | |
| 120495 | 214500 | 13.17 | 7.30 | 522 | 0.3 | 77.2 | 8.08 | |
| 120495 | 221500 | 13.12 | 7.28 | 522 | 0.3 | 74.4 | 7.81 | |
| 120495 | 224500 | 13.07 | 7.26 | 519 | 0.3 | 73.4 | 7.71 | |
| 120495 | 231500 | 13.00 | 7.26 | 519 | 0.3 | 71.7 | 7.54 | |
| 120495 | 234500 | 12.97 | 7.23 | 517 | 0.3 | 72.5 | 7.63 | |
| 120595 | 1500 | 12.95 | 7.24 | 517 | 0.3 | 70.3 | 7.40 | |
| 120595 | 4500 | 12.94 | 7.24 | 518 | 0.3 | 71.8 | 7.56 | |
| 120595 | 11500 | 12.95 | 7.24 | 519 | 0.3 | 70.8 | 7.46 | |
| 120595 | 14500 | 13.00 | 7.24 | 524 | 0.3 | 71.4 | 7.51 | |
| 120595 | 21500 | 13.05 | 7.23 | 533 | 0.3 | 69.4 | 7.29 | |
| 120595 | 24500 | 13.10 | 7.22 | 539 | 0.3 | 69.0 | 7.24 | |
| 120595 | 31500 | 13.10 | 7.21 | 541 | 0.3 | 67.3 | 7.06 | |
| 120595 | 34500 | 13.09 | 7.20 | 541 | 0.3 | 66.7 | 7.00 | |
| 120595 | 41500 | 13.12 | 7.18 | 550 | 0.3 | 65.2 | 6.84 | |
| 120595 | 44500 | 13.12 | 7.18 | 546 | 0.3 | 65.4 | 6.86 | |
| 120595 | 51500 | 13.14 | 7.17 | 553 | 0.3 | 63.9 | 6.70 | |
| 120595 | 54500 | 13.14 | 7.16 | 550 | 0.3 | 63.7 | 6.68 | |
| 120595 | 61500 | 13.17 | 7.17 | 559 | 0.3 | 62.7 | 6.57 | |
| 120595 | 64500 | 13.15 | 7.17 | 554 | 0.3 | 62.6 | 6.56 | |
| 120595 | 71500 | 13.12 | 7.17 | 547 | 0.3 | 62.2 | 6.53 | |
| 120595 | 74500 | 13.10 | 7.17 | 539 | 0.3 | 63.4 | 6.65 | |
| 120595 | 81500 | 13.09 | 7.18 | 535 | 0.3 | 63.2 | 6.63 | |
| 120595 | 84500 | 13.09 | 7.17 | 532 | 0.3 | 63.5 | 6.67 | |
| 120595 | 91500 | 13.07 | 7.17 | 529 | 0.3 | 62.3 | 6.54 | |
| 120595 | 94500 | 13.09 | 7.15 | 526 | 0.3 | 62.9 | 6.60 | |
| 120595 | 101500 | 13.18 | 7.19 | 530. | 0.3 | 64.7 | 6.77 | |
| 120595 | 104500 | 13.23 | 7.18 | 530 | 0.3 | 64.5 | 6.75 | |
| 120595 | 111500 | 13.25 | 7.19 | 530 | 0.3 | 64.9 | 6.79 | |
| 120595 | 114500 | 13.35 | 7.18 | 541 | 0.3 | 64.7 | 6.76 | |
| 120595 | 121500 | 13.45 | 7.19 | 548 | 0.3 | 66.3 | 6.90 | |
| 120595 | 124500 | 13.48 | 7.19 | 554 | 0.3 | 66.5 | 6.92 | |
| 120595 | 131500 | 13.53 | 7.19 | 557 | 0.3 | 65.9 | 6.85 | |
| 120595 | 134500 | 13.58 | 7.20 | 560 | 0.3 | 67.7 | 7.03 | |
| 120595 | 141500 | 13.58 | 7.19 | 562 | 0.3 | 65.4 | 6.79 | |
| 120595 | 144500 | 13.65 | 7.18 | 571 | 0.3 | 66.1 | 6.85 | |
| 120595 | 151500 | 13.65 | 7.18 | 574 | 0.3 | 65.0 | 6.74 | |
| 120595 | 154500 | 13.66 | 7.18 | 581 | 0.3 | 64.8 | 6.72 | |
| 120595 | 161500 | 13.68 | 7.17 | 579 | 0.3 | 63.9 | 6.62 | |
| 120595 | 164500 | 13.71 | 7.17 | 584 | 0.3 | 65.0 | 6.73 | |
| 120595 | 171500 | 13.73 | 7.18 | 581 | 0.3 | 64.2 | 6.65 | |
| 120595 | 174500 | 13.73 | 7.18 | 576 | 0.3 | 64.6 | 6.68 | |
| 120595 | 181500 | 13.71 | 7.18 | 567 | 0.3 | 64.3 | 6.65 | |
| 120595 | 184500 | 13.68 | 7.18 | 557 | 0.3 | 64.8 | 6.71 | |
| 120595 | 191500 | 13.65 | 7.18 | 554 | 0.3 | 64.5 | 6.69 | |
| 120595 | 194500 | 13.63 | 7.18 | 550 | 0.3 | 65.5 | 6.79 | |
| 120595 | 201500 | 13.61 | 7.18 | 550 | 0.3 | 63.4 | 6.58 | |
| 120595 | 204500 | 13.56 | 7.17 | 544 | 0.3 | 64.2 | 6.66 | |
| 120595 | 211500 | 13.53 | 7.18 | 540 | 0.3 | 62.8 | 6.52 | |
| 120595 | 214500 | 13.45 | 7.18 | 533 | 0.3 | 64.3 | 6.69 | |
| 120595 | 221500 | 13.41 | 7.17 | 532 | 0.3 | 62.6 | 6.53 | |
| 120595 | 224500 | 13.35 | 7.17 | 529 | 0.3 | 63.7 | 6.65 | |
| 120595 | 231500 | 13.32 | 7.18 | 526 | 0.3 | 62.9 | 6.57 | |
| 120595 | 234500 | 13.28 | 7.18 | 525 | 0.3 | 63.3 | 6.61 | |
| 120695 | 1500 | 13.25 | 7.17 | 522 | 0.3 | 63.5 | 6.64 | |
| 120695 | 4500 | 13.22 | 7.17 | 522 | 0.3 | 63.9 | 6.69 | |
| 120695 | 11500 | 13.17 | 7.15 | 525 | 0.3 | 61.6 | 6.45 | |
| 120695 | 14500 | 13.18 | 7.15 | 529 | 0.3 | 61.0 | 6.38 | |
| 120695 | 21500 | 13.20 | 7.16 | 530 | 0.3 | 61.3 | 6.41 | |
| 120695 | 24500 | 13.20 | 7.16 | 535 | 0.3 | 60.9 | 6.38 | |
| 120695 | 31500 | 13.20 | 7.15 | 539 | 0.3 | 59.6 | 6.24 | |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 120695 | 34500 | 13.23 | 7.14 | 545 | 0.3 | 59.3 | 6.20 |
| 120695 | 41500 | 13.22 | 7.13 | 551 | 0.3 | 58.1 | 6.09 |
| 120695 | 44500 | 13.20 | 7.13 | 551 | 0.3 | 58.2 | 6.09 |
| 120695 | 51500 | 13.23 | 7.14 | 559 | 0.3 | 57.5 | 6.02 |
| 120695 | 54500 | 13.20 | 7.13 | 559 | 0.3 | 57.6 | 6.03 |
| 120695 | 61500 | 13.22 | 7.13 | 563 | 0.3 | 56.6 | 5.92 |
| 120695 | 64500 | 13.20 | 7.13 | 565 | 0.3 | 57.0 | 5.97 |
| 120695 | 71500 | 13.22 | 7.13 | 565 | 0.3 | 55.4 | 5.79 |
| 120695 | 74500 | 13.17 | 7.11 | 559 | 0.3 | 55.6 | 5.82 |
| 120695 | 81500 | 13.12 | 7.12 | 553 | 0.3 | 55.4 | 5.81 |
| 120695 | 84500 | 13.10 | 7.12 | 544 | 0.3 | 56.3 | 5.90 |
| 120695 | 91500 | 13.10 | 7.13 | 542 | 0.3 | 56.0 | 5.87 |
| 120695 | 94500 | 13.10 | 7.13 | 538 | 0.3 | 57.0 | 5.98 |
| 120695 | 101500 | 13.15 | 7.13 | 538 | 0.3 | 57.1 | 5.98 |
| 120695 | 104500 | 13.27 | 7.14 | 540 | 0.3 | 57.9 | 6.05 |
| 120695 | 111500 | 13.25 | 7.12 | 540 | 0.3 | 56.6 | 5.92 |
| 120695 | 114500 | 13.33 | 7.16 | 541 | 0.3 | 60.8 | 6.35 |
| 120695 | 121500 | 13.53 | 7.18 | 549 | 0.3 | 62.7 | 6.51 |
| 120695 | 124500 | 13.60 | 7.18 | 558 | 0.3 | 63.4 | 6.58 |
| 120695 | 131500 | 13.66 | 7.18 | 562 | 0.3 | 63.3 | 6.56 |
| 120695 | 134500 | 13.73 | 7.17 | 568 | 0.3 | 64.6 | 6.68 |
| 120695 | 141500 | 13.88 | 7.19 | 574 | 0.3 | 65.2 | 6.72 |
| 120695 | 144500 | 13.83 | 7.18 | 573 | 0.3 | 65.0 | 6.71 |
| 120695 | 151500 | 13.84 | 7.18 | 573 | 0.3 | 64.1 | 6.61 |
| 120695 | 154500 | 13.88 | 7.17 | 588 | 0.3 | 63.8 | 6.58 |
| 120695 | 161500 | 13.88 | 7.17 | 586 | 0.3 | 62.9 | 6.49 |
| 120695 | 164500 | 13.88 | 7.16 | 592 | 0.3 | 62.3 | 6.42 |
| 120695 | 171500 | 13.98 | 7.19 | 594 | 0.3 | 66.2 | 6.81 |
| 120695 | 174500 | 13.93 | 7.17 | 589 | 0.3 | 63.3 | 6.52 |
| 120695 | 181500 | 13.91 | 7.17 | 586 | 0.3 | 62.6 | 6.45 |
| 120695 | 184500 | 13.86 | 7.17 | 575 | 0.3 | 62.2 | 6.42 |
| 120695 | 191500 | 13.78 | 7.17 | 563 | 0.3 | 62.0 | 6.40 |
| 120695 | 194500 | 13.74 | 7.17 | 559 | 0.3 | 62.1 | 6.42 |
| 120695 | 201500 | 13.73 | 7.17 | 556 | 0.3 | 61.8 | 6.39 |
| 120695 | 204500 | 13.73 | 7.17 | 555 | 0.3 | 61.9 | 6.40 |
| 120695 | 211500 | 13.71 | 7.17 | 552 | 0.3 | 60.9 | 6.30 |
| 120695 | 214500 | 13.69 | 7.18 | 547 | 0.3 | 63.1 | 6.54 |
| 120695 | 221500 | 13.68 | 7.19 | 543 | 0.3 | 63.5 | 6.57 |
| 120695 | 224500 | 13.66 | 7.18 | 541 | 0.3 | 63.6 | 6.59 |
| 120695 | 231500 | 13.66 | 7.18 | 539 | 0.3 | 62.8 | 6.50 |
| 120695 | 234500 | 13.65 | 7.18 | 536 | 0.3 | 63.3 | 6.56 |

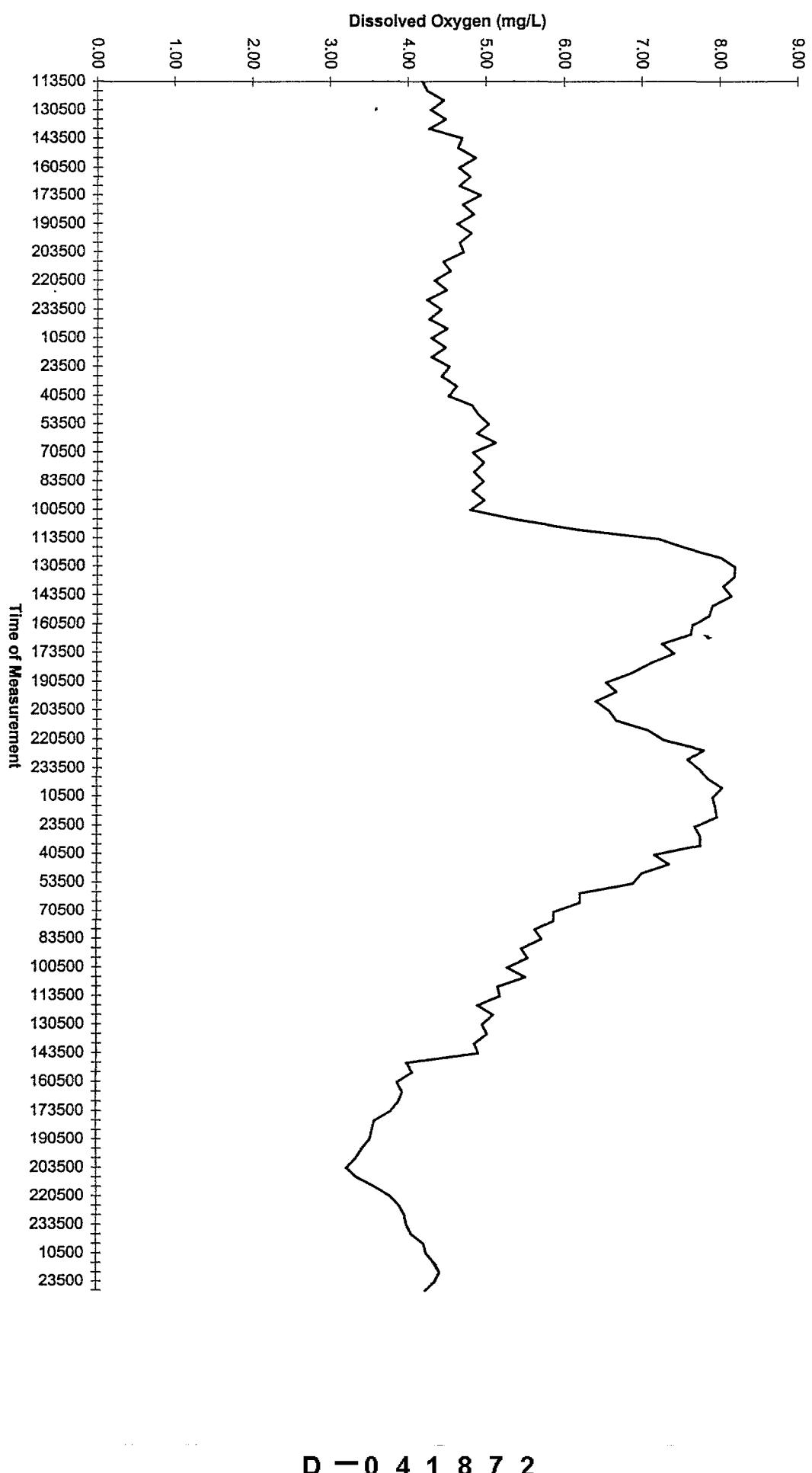


Figure 6. Dissolved oxygen measurements in Smith Canal from 10 to 13 December 1995.

Table 6. Summary of water quality parameters measured in Smith Canal from 10 to 13 December 1995.

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 121095 | 113500 | 13.17 | 6.84 | 575 | 0.3 | 39.9 | 4.18 |
| 121095 | 120500 | 13.17 | 6.84 | 572 | 0.3 | 40.6 | 4.25 |
| 121095 | 123500 | 13.18 | 6.85 | 570 | 0.3 | 42.6 | 4.46 |
| 121095 | 130500 | 13.20 | 6.87 | 571 | 0.3 | 41.0 | 4.29 |
| 121095 | 133500 | 13.22 | 6.87 | 571 | 0.3 | 42.8 | 4.48 |
| 121095 | 140500 | 13.23 | 6.86 | 572 | 0.3 | 40.9 | 4.27 |
| 121095 | 143500 | 13.28 | 6.87 | 579 | 0.3 | 44.9 | 4.69 |
| 121095 | 150500 | 13.30 | 6.89 | 584 | 0.3 | 44.5 | 4.64 |
| 121095 | 153500 | 13.30 | 6.88 | 591 | 0.3 | 46.5 | 4.86 |
| 121095 | 160500 | 13.30 | 6.89 | 596 | 0.3 | 44.6 | 4.65 |
| 121095 | 163500 | 13.30 | 6.88 | 598 | 0.3 | 45.8 | 4.79 |
| 121095 | 170500 | 13.30 | 6.89 | 604 | 0.3 | 44.7 | 4.66 |
| 121095 | 173500 | 13.32 | 6.88 | 612 | 0.3 | 47.2 | 4.93 |
| 121095 | 180500 | 13.32 | 6.88 | 615 | 0.3 | 45.0 | 4.70 |
| 121095 | 183500 | 13.30 | 6.88 | 613 | 0.3 | 46.3 | 4.84 |
| 121095 | 190500 | 13.28 | 6.88 | 612 | 0.3 | 44.3 | 4.63 |
| 121095 | 193500 | 13.28 | 6.87 | 611 | 0.3 | 46.0 | 4.81 |
| 121095 | 200500 | 13.23 | 6.88 | 608 | 0.3 | 44.6 | 4.66 |
| 121095 | 203500 | 13.25 | 6.86 | 605 | 0.3 | 45.1 | 4.71 |
| 121095 | 210500 | 13.20 | 6.87 | 597 | 0.3 | 42.6 | 4.45 |
| 121095 | 213500 | 13.20 | 6.86 | 593 | 0.3 | 43.3 | 4.54 |
| 121095 | 220500 | 13.17 | 6.87 | 588 | 0.3 | 41.4 | 4.34 |
| 121095 | 223500 | 13.17 | 6.87 | 587 | 0.3 | 42.9 | 4.49 |
| 121095 | 230500 | 13.17 | 6.88 | 586 | 0.3 | 40.5 | 4.24 |
| 121095 | 233500 | 13.15 | 6.86 | 582 | 0.3 | 42.2 | 4.42 |
| 121195 | 500 | 13.14 | 6.87 | 577 | 0.3 | 40.7 | 4.27 |
| 121195 | 3500 | 13.12 | 6.87 | 573 | 0.3 | 42.9 | 4.50 |
| 121195 | 10500 | 13.10 | 6.87 | 570 | 0.3 | 41.0 | 4.30 |
| 121195 | 13500 | 13.09 | 6.86 | 568 | 0.3 | 42.7 | 4.48 |
| 121195 | 20500 | 13.07 | 6.87 | 564 | 0.3 | 40.9 | 4.30 |
| 121195 | 23500 | 13.05 | 6.85 | 560 | 0.3 | 43.1 | 4.53 |
| 121195 | 30500 | 13.02 | 6.87 | 556 | 0.3 | 42.2 | 4.43 |
| 121195 | 33500 | 13.02 | 6.87 | 558 | 0.3 | 43.9 | 4.62 |
| 121195 | 40500 | 13.00 | 6.88 | 556 | 0.3 | 42.9 | 4.52 |
| 121195 | 43500 | 13.02 | 6.88 | 559 | 0.3 | 45.9 | 4.82 |
| 121195 | 50500 | 13.17 | 6.88 | 541 | 0.3 | 46.8 | 4.90 |
| 121195 | 53500 | 13.12 | 6.88 | 545 | 0.3 | 48.0 | 5.03 |
| 121195 | 60500 | 13.09 | 6.88 | 544 | 0.3 | 46.5 | 4.88 |
| 121195 | 63500 | 13.04 | 6.88 | 544 | 0.3 | 48.7 | 5.12 |
| 121195 | 70500 | 13.00 | 6.88 | 546 | 0.3 | 45.9 | 4.83 |
| 121195 | 73500 | 12.99 | 6.88 | 545 | 0.3 | 47.3 | 4.97 |
| 121195 | 80500 | 12.99 | 6.88 | 544 | 0.3 | 46.0 | 4.84 |
| 121195 | 83500 | 12.99 | 6.88 | 544 | 0.3 | 47.3 | 4.97 |
| 121195 | 90500 | 12.95 | 6.88 | 544 | 0.3 | 45.9 | 4.83 |
| 121195 | 93500 | 12.95 | 6.88 | 542 | 0.3 | 47.3 | 4.98 |
| 121195 | 100500 | 12.87 | 6.89 | 539 | 0.3 | 45.5 | 4.80 |
| 121195 | 103500 | 12.87 | 6.90 | 519 | 0.3 | 51.1 | 5.39 |
| 121195 | 110500 | 12.90 | 6.89 | 437 | 0.2 | 58.4 | 6.16 |
| 121195 | 113500 | 12.90 | 6.87 | 362 | 0.2 | 68.4 | 7.21 |
| 121195 | 120500 | 12.89 | 6.85 | 312 | 0.2 | 71.7 | 7.57 |
| 121195 | 123500 | 12.89 | 6.83 | 285 | 0.1 | 75.9 | 8.01 |
| 121195 | 130500 | 12.87 | 6.81 | 253 | 0.1 | 77.6 | 8.19 |
| 121195 | 133500 | 12.87 | 6.79 | 258 | 0.1 | 77.5 | 8.18 |
| 121195 | 140500 | 12.87 | 6.79 | 248 | 0.1 | 76.2 | 8.04 |
| 121195 | 143500 | 12.87 | 6.78 | 246 | 0.1 | 77.1 | 8.14 |
| 121195 | 150500 | 12.87 | 6.78 | 249 | 0.1 | 74.8 | 7.90 |
| 121195 | 153500 | 12.89 | 6.77 | 262 | 0.1 | 74.5 | 7.86 |
| 121195 | 160500 | 12.94 | 6.78 | 265 | 0.1 | 72.6 | 7.65 |
| 121195 | 163500 | 12.95 | 6.78 | 278 | 0.1 | 72.4 | 7.63 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 121195 | 170500 | 12.94 | 6.79 | 294 | 0.1 | 68.9 | 7.26 |
| 121195 | 173500 | 12.94 | 6.77 | 284 | 0.1 | 70.3 | 7.41 |
| 121195 | 180500 | 12.92 | 6.77 | 292 | 0.1 | 67.4 | 7.11 |
| 121195 | 183500 | 12.94 | 6.78 | 318 | 0.2 | 65.2 | 6.87 |
| 121195 | 190500 | 12.94 | 6.78 | 334 | 0.2 | 62.1 | 6.54 |
| 121195 | 193500 | 12.92 | 6.79 | 346 | 0.2 | 63.3 | 6.67 |
| 121195 | 200500 | 12.92 | 6.78 | 341 | 0.2 | 60.8 | 6.41 |
| 121195 | 203500 | 12.92 | 6.75 | 327 | 0.2 | 62.4 | 6.58 |
| 121195 | 210500 | 12.89 | 6.69 | 272 | 0.1 | 63.2 | 6.67 |
| 121195 | 213500 | 12.82 | 6.66 | 239 | 0.1 | 67.0 | 7.08 |
| 121195 | 220500 | 12.84 | 6.62 | 198 | 0.1 | 68.9 | 7.28 |
| 121195 | 223500 | 12.92 | 6.59 | 168 | 0.1 | 73.9 | 7.79 |
| 121195 | 230500 | 12.94 | 6.56 | 161 | 0.1 | 71.9 | 7.58 |
| 121195 | 233500 | 12.95 | 6.53 | 153 | 0.1 | 73.5 | 7.74 |
| 121295 | 500 | 12.97 | 6.53 | 136.4 | 0.1 | 74.5 | 7.85 |
| 121295 | 3500 | 12.99 | 6.51 | 129.8 | 0.1 | 76.2 | 8.03 |
| 121295 | 10500 | 12.99 | 6.49 | 121.2 | 0 | 75.1 | 7.91 |
| 121295 | 13500 | 12.97 | 6.46 | 120.5 | 0 | 75.3 | 7.94 |
| 121295 | 20500 | 12.97 | 6.46 | 110.1 | 0 | 75.5 | 7.96 |
| 121295 | 23500 | 12.97 | 6.42 | 119.5 | 0 | 72.9 | 7.68 |
| 121295 | 30500 | 12.94 | 6.42 | 108.5 | 0 | 73.5 | 7.75 |
| 121295 | 33500 | 12.94 | 6.40 | 107.5 | 0 | 73.5 | 7.75 |
| 121295 | 40500 | 12.92 | 6.41 | 115 | 0 | 67.9 | 7.16 |
| 121295 | 43500 | 12.94 | 6.37 | 113.4 | 0 | 69.6 | 7.35 |
| 121295 | 50500 | 12.94 | 6.38 | 119.3 | 0 | 66.4 | 7.00 |
| 121295 | 53500 | 12.94 | 6.39 | 132.1 | 0.1 | 65.3 | 6.89 |
| 121295 | 60500 | 12.89 | 6.41 | 159 | 0.1 | 58.9 | 6.21 |
| 121295 | 63500 | 12.89 | 6.42 | 161 | 0.1 | 58.9 | 6.21 |
| 121295 | 70500 | 12.86 | 6.44 | 173 | 0.1 | 55.5 | 5.87 |
| 121295 | 73500 | 12.84 | 6.44 | 185 | 0.1 | 55.5 | 5.87 |
| 121295 | 80500 | 12.82 | 6.46 | 193 | 0.1 | 53.3 | 5.63 |
| 121295 | 83500 | 12.81 ~ | 6.48 | 212 | 0.1 | 54.1 | 5.72 |
| 121295 | 90500 | 12.79 | 6.50 | 218 | 0.1 | 51.6 | 5.46 |
| 121295 | 93500 | 12.82 | 6.45 | 201 | 0.1 | 52.4 | 5.54 |
| 121295 | 100500 | 12.84 | 6.43 | 193 | 0.1 | 49.9 | 5.28 |
| 121295 | 103500 | 12.86 | 6.40 | 182 | 0.1 | 52.2 | 5.51 |
| 121295 | 110500 | 12.86 | 6.43 | 190 | 0.1 | 48.8 | 5.16 |
| 121295 | 113500 | 12.86 | 6.40 | 193 | 0.1 | 49.1 | 5.19 |
| 121295 | 120500 | 12.86 | 6.41 | 193 | 0.1 | 46.4 | 4.90 |
| 121295 | 123500 | 12.90 | 6.37 | 187 | 0.1 | 48.3 | 5.10 |
| 121295 | 130500 | 12.94 | 6.37 | 171 | 0.1 | 47.0 | 4.96 |
| 121295 | 133500 | 12.92 | 6.34 | 166 | 0.1 | 47.6 | 5.02 |
| 121295 | 140500 | 12.95 | 6.31 | 157 | 0.1 | 46.1 | 4.86 |
| 121295 | 143500 | 12.95 | 6.29 | 156 | 0.1 | 46.6 | 4.91 |
| 121295 | 150500 | 12.99 | 6.31 | 155 | 0.1 | 37.8 | 3.99 |
| 121295 | 153500 | 13.02 | 6.31 | 149 | 0.1 | 38.6 | 4.07 |
| 121295 | 160500 | 13.00 | 6.30 | 151 | 0.1 | 36.8 | 3.87 |
| 121295 | 163500 | 13.02 | 6.28 | 144.6 | 0.1 | 37.4 | 3.94 |
| 121295 | 170500 | 13.02 | 6.27 | 139.4 | 0.1 | 36.9 | 3.89 |
| 121295 | 173500 | 12.99 | 6.26 | 139.4 | 0.1 | 36.0 | 3.79 |
| 121295 | 180500 | 13.02 | 6.26 | 146.3 | 0.1 | 34.0 | 3.58 |
| 121295 | 183500 | 12.97 | 6.29 | 151 | 0.1 | 33.7 | 3.55 |
| 121295 | 190500 | 12.97 | 6.28 | 156 | 0.1 | 33.4 | 3.52 |
| 121295 | 193500 | 12.97 | 6.28 | 159 | 0.1 | 32.4 | 3.42 |
| 121295 | 200500 | 12.95 | 6.28 | 155 | 0.1 | 31.7 | 3.34 |
| 121295 | 203500 | 12.95 | 6.25 | 146 | 0.1 | 30.6 | 3.22 |
| 121295 | 210500 | 12.94 | 6.22 | 134 | 0.1 | 31.8 | 3.35 |
| 121295 | 213500 | 12.92 | 6.18 | 119.9 | 0 | 33.9 | 3.58 |
| 121295 | 220500 | 12.94 | 6.18 | 108.1 | 0 | 35.8 | 3.78 |
| 121295 | 223500 | 12.94 | 6.15 | 99.4 | 0 | 37.0 | 3.90 |
| 121295 | 230500 | 12.97 | 6.13 | 92.5 | 0 | 37.7 | 3.97 |
| 121295 | 233500 | 12.99 | 6.11 | 88.1 | 0 | 37.9 | 4.00 |
| 121395 | 500 | 13.00 | 6.09 | 84 | 0 | 38.5 | 4.06 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 121395 | 3500 | 13.04 | 6.08 | 79.3 | 0 | 40.1 | 4.22 |
| 121395 | 10500 | 13.09 | 6.06 | 75.4 | 0 | 40.5 | 4.25 |
| 121395 | 13500 | 13.12 | 6.04 | 72.2 | 0 | 41.4 | 4.35 |
| 121395 | 20500 | 13.15 | 6.05 | 70.3 | 0 | 42.1 | 4.42 |
| 121395 | 23500 | 13.15 | 6.05 | 69.9 | 0 | 41.5 | 4.36 |
| 121395 | 30500 | 13.15 | 6.05 | 70.2 | 0 | 40.4 | 4.24 |

Figure 7. Dissolved oxygen measurements in Smith Canal from 15 to 18 December 1995.

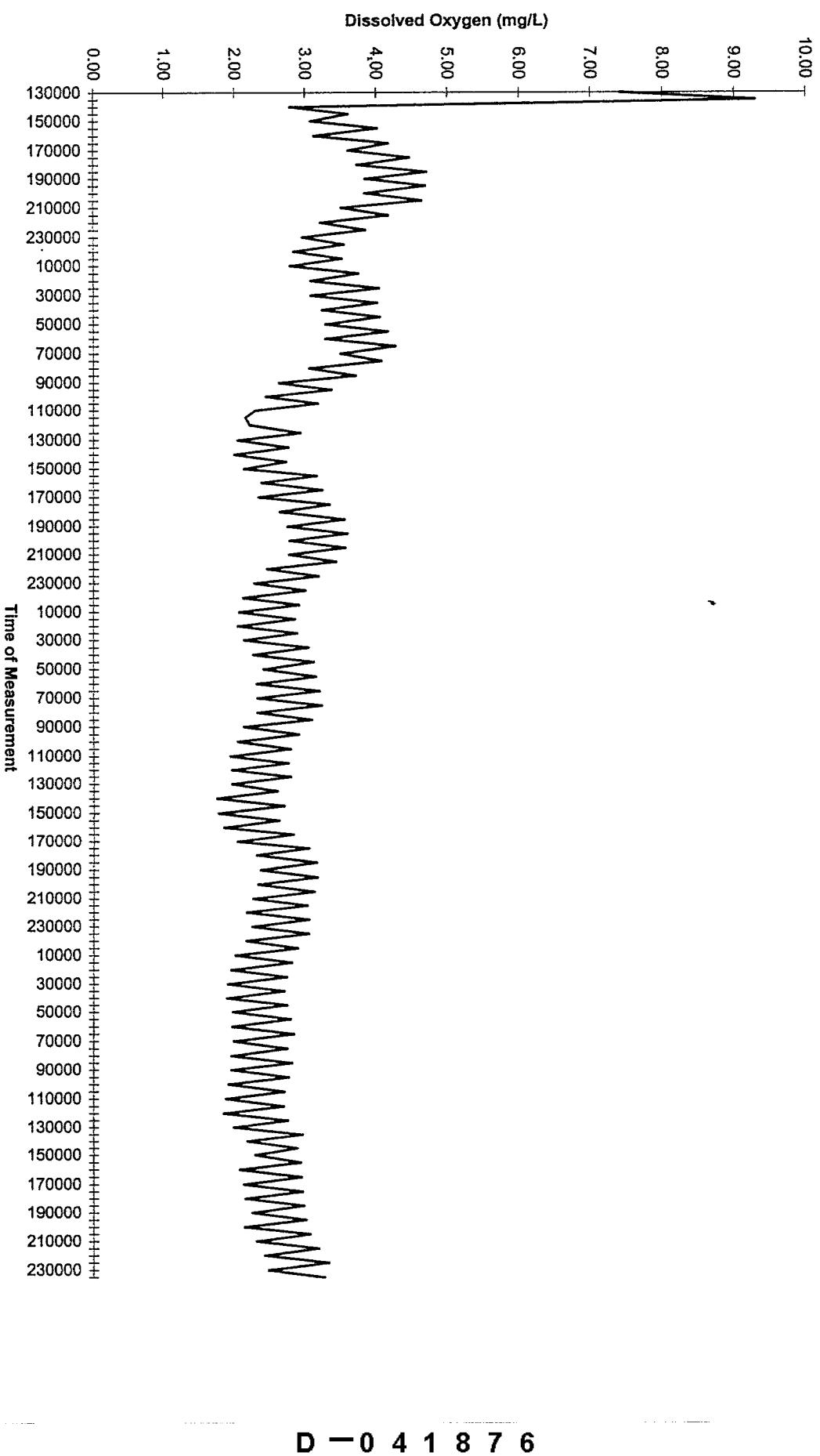


Table 7. Summary of water quality parameters measured in Smith Canal from 15 to 19 December 1995.

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 121595 | 130000 | 16.79 | 8.23 | 512 | 0.3 | 76.5 | 7.41 |
| 121595 | 133000 | 18.01 | 8.21 | 514 | 0.3 | 98.4 | 9.30 |
| 121595 | 140000 | 12.35 | 6.67 | 79.7 | 0 | 26.1 | 2.79 |
| 121595 | 143000 | 12.41 | 6.37 | 77.9 | 0 | 33.8 | 3.61 |
| 121595 | 150000 | 12.43 | 6.38 | 75.3 | 0 | 28.9 | 3.08 |
| 121595 | 153000 | 12.43 | 6.39 | 74.9 | 0 | 37.7 | 4.02 |
| 121595 | 160000 | 12.43 | 6.39 | 74.6 | 0 | 29.3 | 3.13 |
| 121595 | 163000 | 12.41 | 6.39 | 73.8 | 0 | 39.1 | 4.17 |
| 121595 | 170000 | 12.41 | 6.37 | 72.2 | 0 | 33.8 | 3.61 |
| 121595 | 173000 | 12.40 | 6.38 | 71.4 | 0 | 41.9 | 4.47 |
| 121595 | 180000 | 12.36 | 6.37 | 71.1 | 0 | 34.9 | 3.73 |
| 121595 | 183000 | 12.35 | 6.38 | 69.9 | 0 | 44.0 | 4.71 |
| 121595 | 190000 | 12.30 | 6.40 | 69.9 | 0 | 35.9 | 3.85 |
| 121595 | 193000 | 12.28 | 6.40 | 69.9 | 0 | 43.8 | 4.69 |
| 121595 | 200000 | 12.25 | 6.37 | 69.8 | 0 | 35.8 | 3.84 |
| 121595 | 203000 | 12.23 | 6.37 | 70 | 0 | 43.2 | 4.64 |
| 121595 | 210000 | 12.20 | 6.37 | 72 | 0 | 32.8 | 3.51 |
| 121595 | 213000 | 12.22 | 6.38 | 74 | 0 | 38.9 | 4.17 |
| 121595 | 220000 | 12.18 | 6.39 | 74.7 | 0 | 30.0 | 3.22 |
| 121595 | 223000 | 12.17 | 6.42 | 75.9 | 0 | 35.9 | 3.85 |
| 121595 | 230000 | 12.15 | 6.40 | 76.8 | 0 | 27.6 | 2.96 |
| 121595 | 233000 | 12.12 | 6.40 | 79.2 | 0 | 33.1 | 3.55 |
| 121695 | 0 | 12.05 | 6.39 | 77.6 | 0 | 26.4 | 2.84 |
| 121695 | 3000 | 12.03 | 6.39 | 78.8 | 0 | 32.7 | 3.52 |
| 121695 | 10000 | 12.03 | 6.37 | 77.6 | 0 | 26.0 | 2.79 |
| 121695 | 13000 | 12.00 | 6.37 | 75.3 | 0 | 34.8 | 3.75 |
| 121695 | 20000 | 11.95 | 6.36 | 73.6 | 0 | 28.5 | 3.08 |
| 121695 | 23000 | 11.90 | 6.37 | 72.5 | 0 | 37.4 | 4.04 |
| 121695 | 30000 | 11.87 | 6.38 | 72.7 | 0 | 28.5 | 3.08 |
| 121695 | 33000 | 11.81 | 6.36 | 72.4 | 0 | 37.0 | 4.01 |
| 121695 | 40000 | 11.76 | 6.36 | 71.7 | 0 | 29.9 | 3.24 |
| 121695 | 43000 | 11.72 | 6.37 | 71.2 | 0 | 37.3 | 4.05 |
| 121695 | 50000 | 11.66 | 6.36 | 70.6 | 0 | 30.3 | 3.29 |
| 121695 | 53000 | 11.58 | 6.37 | 70.3 | 0 | 38.3 | 4.16 |
| 121695 | 60000 | 11.53 | 6.36 | 71.4 | 0 | 30.2 | 3.29 |
| 121695 | 63000 | 11.48 | 6.41 | 69.9 | 0 | 39.2 | 4.27 |
| 121695 | 70000 | 11.38 | 6.37 | 69.7 | 0 | 32.0 | 3.50 |
| 121695 | 73000 | 11.36 | 6.37 | 71.2 | 0 | 37.2 | 4.07 |
| 121695 | 80000 | 11.40 | 6.37 | 73.6 | 0 | 28.0 | 3.06 |
| 121695 | 83000 | 11.40 | 6.40 | 75.5 | 0 | 34.0 | 3.71 |
| 121695 | 90000 | 11.43 | 6.39 | 78.4 | 0 | 24.0 | 2.63 |
| 121695 | 93000 | 11.41 | 6.39 | 79.8 | 0 | 30.8 | 3.37 |
| 121695 | 100000 | 11.43 | 6.40 | 82.1 | 0 | 22.4 | 2.44 |
| 121695 | 103000 | 11.46 | 6.40 | 84 | 0 | 29.1 | 3.18 |
| 121695 | 110000 | 11.54 | 6.41 | 86.6 | 0 | 21.0 | 2.29 |
| 121695 | 113000 | 11.59 | 6.43 | 88.3 | 0 | 19.8 | 2.15 |
| 121695 | 120000 | 11.61 | 6.44 | 89.5 | 0 | 20.3 | 2.21 |
| 121695 | 123000 | 11.61 | 6.46 | 89.6 | 0 | 27.0 | 2.93 |
| 121695 | 130000 | 11.63 | 6.46 | 92 | 0 | 18.8 | 2.04 |
| 121695 | 133000 | 11.63 | 6.46 | 94.7 | 0 | 25.4 | 2.76 |
| 121695 | 140000 | 11.64 | 6.41 | 91.1 | 0 | 18.3 | 1.99 |
| 121695 | 143000 | 11.64 | 6.41 | 91.5 | 0 | 25.1 | 2.73 |
| 121695 | 150000 | 11.66 | 6.41 | 87.8 | 0 | 19.6 | 2.13 |
| 121695 | 153000 | 11.63 | 6.41 | 85.7 | 0 | 29.1 | 3.16 |
| 121695 | 160000 | 11.63 | 6.41 | 84.2 | 0 | 21.9 | 2.38 |
| 121695 | 163000 | 11.59 | 6.43 | 83.5 | 0 | 29.8 | 3.24 |
| 121695 | 170000 | 11.56 | 6.42 | 84.1 | 0 | 21.5 | 2.34 |
| 121695 | 173000 | 11.49 | 6.40 | 79.5 | 0 | 30.7 | 3.34 |
| 121695 | 180000 | 11.41 | 6.38 | 77 | 0 | 24.2 | 2.64 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 121695 | 183000 | 11.31 | 6.38 | 75 | 0 | 32.4 | 3.55 |
| 121695 | 190000 | 11.25 | 6.37 | 74.4 | 0 | 25.1 | 2.75 |
| 121695 | 193000 | 11.17 | 6.38 | 74.2 | 0 | 32.7 | 3.59 |
| 121695 | 200000 | 11.13 | 6.37 | 73.7 | 0 | 25.3 | 2.78 |
| 121695 | 203000 | 11.10 | 6.42 | 73.9 | 0 | 32.4 | 3.56 |
| 121695 | 210000 | 11.09 | 6.38 | 72.9 | 0 | 25.2 | 2.77 |
| 121695 | 213000 | 11.05 | 6.40 | 75.3 | 0 | 31.1 | 3.43 |
| 121695 | 220000 | 11.04 | 6.40 | 78.1 | 0 | 22.3 | 2.46 |
| 121695 | 223000 | 11.07 | 6.41 | 79.6 | 0 | 29.0 | 3.19 |
| 121695 | 230000 | 11.10 | 6.40 | 82.1 | 0 | 20.7 | 2.28 |
| 121695 | 233000 | 11.12 | 6.44 | 85 | 0 | 27.3 | 3.00 |
| 121795 | 0 | 11.12 | 6.44 | 86.4 | 0 | 19.3 | 2.12 |
| 121795 | 3000 | 11.07 | 6.44 | 88.6 | 0 | 26.4 | 2.91 |
| 121795 | 10000 | 11.09 | 6.47 | 89.6 | 0 | 18.8 | 2.06 |
| 121795 | 13000 | 11.07 | 6.43 | 89.2 | 0 | 25.9 | 2.85 |
| 121795 | 20000 | 10.99 | 6.43 | 88.1 | 0 | 18.5 | 2.04 |
| 121795 | 23000 | 10.94 | 6.41 | 86.4 | 0 | 26.1 | 2.88 |
| 121795 | 30000 | 10.85 | 6.39 | 82.9 | 0 | 19.2 | 2.13 |
| 121795 | 33000 | 10.74 | 6.41 | 80.6 | 0 | 27.4 | 3.04 |
| 121795 | 40000 | 10.64 | 6.40 | 79.5 | 0 | 20.3 | 2.26 |
| 121795 | 43000 | 10.58 | 6.40 | 78.6 | 0 | 28.1 | 3.12 |
| 121795 | 50000 | 10.51 | 6.40 | 76.3 | 0 | 21.6 | 2.41 |
| 121795 | 53000 | 10.46 | 6.39 | 77.4 | 0 | 28.2 | 3.15 |
| 121795 | 60000 | 10.40 | 6.39 | 76.8 | 0 | 20.7 | 2.31 |
| 121795 | 63000 | 10.33 | 6.40 | 75.7 | 0 | 28.6 | 3.20 |
| 121795 | 70000 | 10.25 | 6.41 | 76.6 | 0 | 20.7 | 2.32 |
| 121795 | 73000 | 10.22 | 6.39 | 75 | 0 | 28.8 | 3.23 |
| 121795 | 80000 | 10.15 | 6.39 | 76.4 | 0 | 20.6 | 2.32 |
| 121795 | 83000 | 10.17 | 6.41 | 79.2 | 0 | 27.5 | 3.09 |
| 121795 | 90000 | 10.22 | 6.42 | 82.8 | 0 | 19.0 | 2.13 |
| 121795 | 93000 | 10.32 | 6.43 | 85.4 | 0 | 26.0 | 2.91 |
| 121795 | 100000 | 10.36 ~ | 6.43 | 87.6 | 0 | 18.2 | 2.04 |
| 121795 | 103000 | 10.53 | 6.46 | 93.1 | 0 | 25.1 | 2.79 |
| 121795 | 110000 | 10.58 | 6.44 | 95.8 | 0 | 17.5 | 1.94 |
| 121795 | 113000 | 10.68 | 6.47 | 99.7 | 0 | 24.9 | 2.76 |
| 121795 | 120000 | 10.77 | 6.48 | 103.9 | 0 | 17.7 | 1.96 |
| 121795 | 123000 | 10.84 | 6.50 | 106.7 | 0 | 25.2 | 2.79 |
| 121795 | 130000 | 10.84 | 6.50 | 107.7 | 0 | 17.7 | 1.96 |
| 121795 | 133000 | 10.84 | 6.52 | 110.9 | 0 | 23.5 | 2.60 |
| 121795 | 140000 | 10.86 | 6.51 | 109.6 | 0 | 15.8 | 1.75 |
| 121795 | 143000 | 10.87 | 6.49 | 107.3 | 0 | 24.4 | 2.70 |
| 121795 | 150000 | 10.84 | 6.47 | 106.7 | 0 | 16.0 | 1.77 |
| 121795 | 153000 | 10.77 | 6.45 | 100.9 | 0 | 23.7 | 2.63 |
| 121795 | 160000 | 10.76 | 6.46 | 98.4 | 0 | 16.7 | 1.85 |
| 121795 | 163000 | 10.76 | 6.47 | 93.1 | 0 | 25.6 | 2.83 |
| 121795 | 170000 | 10.73 | 6.46 | 92.4 | 0 | 18.4 | 2.04 |
| 121795 | 173000 | 10.77 | 6.44 | 86.5 | 0 | 27.6 | 3.05 |
| 121795 | 180000 | 10.77 | 6.42 | 84.7 | 0 | 20.8 | 2.31 |
| 121795 | 183000 | 10.77 | 6.43 | 83.1 | 0 | 28.6 | 3.16 |
| 121795 | 190000 | 10.76 | 6.41 | 81.5 | 0 | 21.4 | 2.37 |
| 121795 | 193000 | 10.73 | 6.42 | 81.5 | 0 | 28.6 | 3.17 |
| 121795 | 200000 | 10.71 | 6.42 | 81.6 | 0 | 21.0 | 2.33 |
| 121795 | 203000 | 10.66 | 6.42 | 80.9 | 0 | 28.2 | 3.13 |
| 121795 | 210000 | 10.63 | 6.42 | 81 | 0 | 20.3 | 2.26 |
| 121795 | 213000 | 10.58 | 6.46 | 82.2 | 0 | 27.2 | 3.03 |
| 121795 | 220000 | 10.55 | 6.41 | 80.6 | 0 | 19.5 | 2.17 |
| 121795 | 223000 | 10.51 | 6.43 | 80.7 | 0 | 27.4 | 3.05 |
| 121795 | 230000 | 10.53 | 6.43 | 82.7 | 0 | 20.2 | 2.25 |
| 121795 | 233000 | 10.53 | 6.43 | 83.8 | 0 | 27.4 | 3.05 |
| 121895 | 0 | 10.53 | 6.44 | 86 | 0 | 19.3 | 2.16 |
| 121895 | 3000 | 10.55 | 6.48 | 89.5 | 0 | 25.9 | 2.89 |
| 121895 | 10000 | 10.55 | 6.48 | 94.4 | 0 | 18.0 | 2.01 |
| 121895 | 13000 | 10.50 | 6.48 | 94.6 | 0 | 25.2 | 2.81 |

| Date MMDDYY | Time HHMMSS | Temp degC | pH units | SpCond uS/cm | Salin ppt | DO %Sat | DO mg/l |
|----------------|----------------|--------------|-------------|-----------------|--------------|------------|------------|
| 121895 | 20000 | 10.50 | 6.47 | 94.9 | 0 | 17.5 | 1.95 |
| 121895 | 23000 | 10.48 | 6.50 | 95.3 | 0 | 24.5 | 2.74 |
| 121895 | 30000 | 10.48 | 6.47 | 96.6 | 0 | 17.1 | 1.90 |
| 121895 | 33000 | 10.51 | 6.49 | 105.8 | 0 | 24.2 | 2.70 |
| 121895 | 40000 | 10.46 | 6.46 | 97.9 | 0 | 16.9 | 1.89 |
| 121895 | 43000 | 10.44 | 6.46 | 93.2 | 0 | 24.5 | 2.74 |
| 121895 | 50000 | 10.40 | 6.44 | 89.7 | 0 | 17.7 | 1.97 |
| 121895 | 53000 | 10.38 | 6.44 | 87.8 | 0 | 25.0 | 2.79 |
| 121895 | 60000 | 10.37 | 6.45 | 87.8 | 0 | 17.5 | 1.96 |
| 121895 | 63000 | 10.35 | 6.43 | 86.6 | 0 | 25.3 | 2.83 |
| 121895 | 70000 | 10.32 | 6.42 | 86.9 | 0 | 17.7 | 1.98 |
| 121895 | 73000 | 10.31 | 6.44 | 87 | 0 | 24.4 | 2.74 |
| 121895 | 80000 | 10.30 | 6.42 | 85.2 | 0 | 17.4 | 1.95 |
| 121895 | 83000 | 10.27 | 6.44 | 86.1 | 0 | 25.0 | 2.81 |
| 121895 | 90000 | 10.31 | 6.46 | 87.8 | 0 | 17.4 | 1.95 |
| 121895 | 93000 | 10.35 | 6.48 | 91.5 | 0 | 24.7 | 2.76 |
| 121895 | 100000 | 10.37 | 6.48 | 94.7 | 0 | 17.1 | 1.91 |
| 121895 | 103000 | 10.40 | 6.51 | 99.7 | 0 | 24.1 | 2.70 |
| 121895 | 110000 | 10.48 | 6.53 | 108.3 | 0 | 16.8 | 1.87 |
| 121895 | 113000 | 10.50 | 6.52 | 114.7 | 0 | 24.1 | 2.69 |
| 121895 | 120000 | 10.48 | 6.52 | 110.2 | 0 | 16.5 | 1.84 |
| 121895 | 123000 | 10.51 | 6.54 | 120.4 | 0 | 24.6 | 2.75 |
| 121895 | 130000 | 10.56 | 6.57 | 128.3 | 0.1 | 17.8 | 1.98 |
| 121895 | 133000 | 10.64 | 6.61 | 144.6 | 0.1 | 26.6 | 2.96 |
| 121895 | 140000 | 10.66 | 6.62 | 151 | 0.1 | 19.6 | 2.18 |
| 121895 | 143000 | 10.62 | 6.59 | 143.1 | 0.1 | 25.9 | 2.88 |
| 121895 | 150000 | 10.68 | 6.60 | 153 | 0.1 | 20.6 | 2.29 |
| 121895 | 153000 | 10.61 | 6.57 | 134.9 | 0.1 | 26.3 | 2.93 |
| 121895 | 160000 | 10.55 | 6.54 | 122.7 | 0.1 | 18.6 | 2.07 |
| 121895 | 163000 | 10.51 | 6.54 | 114.5 | 0 | 26.4 | 2.94 |
| 121895 | 170000 | 10.46 | 6.51 | 108.4 | 0 | 19.1 | 2.13 |
| 121895 | 173000 | 10.46 | 6.51 | 103.4 | 0 | 26.5 | 2.96 |
| 121895 | 180000 | 10.43 | 6.49 | 102.7 | 0 | 19.2 | 2.15 |
| 121895 | 183000 | 10.40 | 6.50 | 101 | 0 | 26.7 | 2.98 |
| 121895 | 190000 | 10.32 | 6.46 | 91 | 0 | 20.1 | 2.25 |
| 121895 | 193000 | 10.28 | 6.46 | 89.9 | 0 | 26.9 | 3.01 |
| 121895 | 200000 | 10.27 | 6.46 | 90.1 | 0 | 19.1 | 2.14 |
| 121895 | 203000 | 10.24 | 6.47 | 88.6 | 0 | 27.3 | 3.07 |
| 121895 | 210000 | 10.27 | 6.45 | 88.8 | 0 | 20.6 | 2.31 |
| 121895 | 213000 | 10.28 | 6.47 | 88.8 | 0 | 28.5 | 3.19 |
| 121895 | 220000 | 10.32 | 6.47 | 89.1 | 0 | 21.7 | 2.43 |
| 121895 | 223000 | 10.33 | 6.46 | 89.5 | 0 | 29.7 | 3.33 |
| 121895 | 230000 | 10.30 | 6.49 | 89.1 | 0 | 22.1 | 2.48 |
| 121895 | 233000 | 10.28 | 6.49 | 89 | 0 | 29.2 | 3.27 |
| 121995 | 0 | 10.24 | 6.48 | 91.8 | 0 | 21.0 | 2.36 |